THE
MEDICAL AND SURGICAL REPORTER.

No. 1823. PHILADELPHIA, FEBRUARY 6, 1892. Vol. LXVI.—No. 6.

CLINICAL LECTURE.

ABSCESSES OF THE BREAST.*

By PROFESSOR DUPLAY,
PARIS, FRANCE.

Gentlemen: I will to-day call your attention to a woman, 28 years of age, servant by occupation, delivered five weeks ago, who has suckled her child for seventeen days. She is now suffering from fissured nipples. After a little while she ceased nourishing the child at the right breast, because this had become tumefied and painful. On the 2d of June there appeared on the external portion of the areola a little abscess, near which there was a cicatrix, accompanied with a slight local induration. In five days the whole of the right breast became swollen and painful, and the patient decided to enter the hospital for treatment. The woman exhibits now an induration of the whole right mammary gland, but there is no invasion of the subcutaneous cellular tissue. There is no pronounced tension of the skin, nor are there any signs of fluctuation. Soon afterwards the consistency of the whole region became notably diminished; at the same time, there appeared a point within the nipple that gave distinct fluctuation. On pressing the gland, especially on this part, there is ejected, by the galactophorous ducts, a liquid resembling milk mixed with pus. Otherwise the patient is in a fair condition, and there is no marked abnormal temperature.

In the presence of these phenomena there is no doubt that we are here dealing with one of those varieties of phlegmasias of the mammary region, called "abscess of the breast;" but, thus formulated, the diagnosis is incomplete. It will be interesting to examine the case from etiological and anatomical points of view. There exists, indeed, a certain number of abscesses of the mammary region: Those of the nipple, those of the areola, and those of the mammary gland proper. The first ones are acuminate and globular. Velpeau calls them tuberous or tubercular. Our patient has neither of these abscesses. At the mammary gland proper we find superficial abscesses, deep abscesses developed in the cellular sub-mammary tissue, and abscesses of the glandular tissue itself. In our case, we have not, evidently, a superficial abscess; and I have asked myself, on the contrary, if we could not have an abscess belonging to this variety in another patient, delivered in our wards, in whom it was found, on the region of the breast, a limited fluctuating tumor, situated manifestly in the sub-cutaneous tissue; but here also the whole of the mammary gland is involved, and there is noticed a marked induration. The abscess, although superficial, came on as a secondary manifestation. The woman whose history I have given you at the beginning of this lecture, has no longer a sub-mammary abscess. This, in fact, is easy to diagnose with precision. It is projecting, giving rise to an extreme tension of the skin, and to a considerable swelling of the gland, all of which are characteristic signs. The question arises whether the condition is that of a parenchymatous abscess, a true mastitis, or a mammitis. In fact, what characterize a glandular abscess are the freedom of the sub-cutaneous cellular tissue, the mobility of the indurated gland in the deep parts, and the special consistency of the gland, as if it were injected with suet.

Let us study the pathogenic relations of the diagnosis. You know that the mammary phlegmons are especially frequent after labor, and they are also seen during the period of gestation. It is to-day proven that they are particularly common in women who, after they have suckled their children for a certain period of time, a few days or a few weeks, cease to do so. Our patient may be included among these, and I have told you that she

* A lecture delivered at "L'Hospital de la Charité," and published in *Le Progres Medical*.

suckled her own child for seventeen days before she sent it to a wet nurse. The effect of cold, the want of proper cleanliness, and the small sores produced by the mouth of the child, all play an important part in their production. They similarly occur, and with great frequency, if the sores about the nipples already exist at the time when the child begins to suckle, and which may be attended by a complete detachment of the nipples. All this constitutes a starting point for all causes of infection, and is, in a general way, the ordinary beginning of puerperal mammitis.

The pathogenic theories promulgated in regard to these affections have been modified. Velpeau still inclines to the theory that engorgement of the milk produces a painful distention of the galactophorous ducts, which finally rupture, and the milk, thus escaping and diffusing in the cellular tissue, is transformed into pus. It is scarcely thirty years ago when Sappey, Nelaton, and his pupil, Richard, opposed this old doctrine. They thought that the majority of the abscesses of the breast were the result of a lymphangitis, which, starting from the nipple fissures, rapidly gained access to the deep parts. This theory is somewhat seductive, and the anatomical reasons upon which it is based seem to carry a certain degree of conviction. The clinical proofs are far from being conclusive. I have often, with these alone, combatted the hypothesis of Nelaton, and I have done this based precisely upon a certain number of clinical facts: The nearly constant absence from the beginning of involvement of axillary glands in abscesses of the breast, whereas in other parts the least lymphangitis is accompanied by adenitis, oftentimes of a more serious nature than the original lymphangitis; then, the nearly always insiduous beginning of the mammary abscesses is strikingly different from the commencement of a lymphangitis, which is generally accompanied with rigors and high temperature. In one word, I am sustained by what we know about abscesses of other glands, such as the parotid and the testicle, in which the inflammation gains access through Steno's duct and vas deferens respectively. From these considerations I conclude that it is useless, in the case of the mammary gland, to seek for anything especial, and that the inflamation in this case must likewise travel through the glandular ducts, and invade, secondarily, the cellular tissue.

In these latter times the microbian doctrines have wrought serious changes in regard to this theory. I can understand how, instead of travelling through the lymphatics, the infection may be carried through the grandular tissue. However, this is not merely a theoretical view taken of the matter. Shosser has discovered and described microbes, all over the mammary gland up to the acini. Budin has met with an extremely rare form of mammary abscesses, and the one found in the woman before us may be an example of them: In three patients, on pressing upon the breasts, there was exuded from a galactophorous duct, not milk, but thick pus sufficient to fill a small glass.

He cites likewise one case of this nature, in which a complete cure was effected by this simple mauœuvre. The abscess, undoubtedly, had been developed from the very beginning solely upon the glandular elements. It was an abscess due to staphylococci. Cazin and myself have been conducting, of late, a series of bacteriological researches upon abscesses of the breast, and we have found either staphylococci or streptococci, but never pneumococci, which we expected to find in some cases, at least, in which their presence might have been accounted for by infection through the saliva of the child. Be this as it may, we must admit to-day that in the majority of cases, a microbian agent penetrates into the galactophorous ducts through the fissures of the nipples, or in some other way, as in the case of Budin, and that, secondarily, it invades the cellular tissue.

You will meet every now and then with a typical mammary lymphangitis, but the infection here follows a distinct and especial course. I believe that lymphangitis is frequently complicated, in the course of its development, with inflammation of the ducts; this may be the case with our patient, and we find considerable enlargement of the axillary glands, which are painless to the touch. What is the clinical history of mammary infections? Often they get well spontaneously, but always there is more or less formation of pus. The inflammation may be propagated to the subcutaneous, or deep cellular tissue, more frequently to the interlobular tissue, which becomes the seat of one or more abscesses, coming on simultaneously or successively, and converting the whole gland into a sponge of pus. Sometimes the pus gains access to the milk ducts; this is the form described by Budin, pointed out by Chassaignac, but which I do not consider as absolutely rare.

The prognosis of mammary abscesses is generally benign. Their formation, their rupture, and their cure may occupy but a few days. This is what is occurring in our present case. In other instances the affec-

tion assumes, on the contrary, a more serious character; fistulæ may be formed everywhere in the gland. These intermediary forms are the most frequent.

What is to be done in a mammary infection? At the beginning, compression, the refrigerants largely employed in Germany, topical applications (mercurial ointment), and antiseptic poultices may be tried; but I have little confidence in these measures. On the appearance of fluctuation I have always practiced incision. You know my manner of acting in these cases, which is contrary to the method of Gosslein, who recommends this procedure only as a last resource, or when an opening is established by itself. Erysipelas may come on as a complication from the presence of wounds; to-day we must fear, above all, purulent infiltrations, which may traverse and destroy the whole gland. In such cases, counter-openings may be necessary. You must not lose time if unfortunately a patient should come to you in the last stages of the disease, when not only abscesses, but even fistulæ may be present.

I will conclude by considering a practical point. After a cure has been established, the gland does not soon acquire its normal consistency; it continues to present an indurated or hardened condition even for weeks, although rarely this soon passes off. Most commonly a chronic mammitis is slowly developed towards the establishment of a complete cure. It is in these conditions you will obtain the best results from the employment of a methodical compression.

DUBOISINE AS A SEDATIVE AND HYPNOTIC.

Dr. H. Gellhorn recommends duboisine sulphate as a prompt sedative, having no dangerous by-effects, in the excitations of psychoses.

The hypnotic action of duboisine sulphate in simple agrypnia has not yet been fully gauged; perhaps sulphonal is prompter in this respect. In excited patients duboisine sulphate generally induces sleep. For these, according to Gellhorn, the dosage is as follows:

Hypodermically, 0.0008—0.0012 gramme ($\frac{1}{75}$—$\frac{1}{50}$ grain) per day, at one injection, for females; and 0.0012–0.0022 gramme ($\frac{1}{50}$—$\frac{1}{30}$ grain) for males. Internally, 0.0008–0.022 gramme ($\frac{1}{75}$—$\frac{1}{30}$ grain). In continued use the dose must must be increased slowly.—*Merck's Bulletin.*

THE PATHOLOGY OF HIP-JOINT DISEASE, WITH ILLUSTRATIVE CASES.*

By H. AUGUSTUS WILSON, M. D.

CLINICAL LECTURER ON ORTHOPŒDIC SURGERY, JEFFERSON MEDICAL COLLEGE HOSPITAL, PHILADELPHIA.

Gentlemen:—Permit me first to draw your attention to the names that are given to designate a disease that we have studied in part, and one which we intend to study still more thoroughly, as we have illustrative cases to present before you. These names must be familiar to you, so that you may understand the conditions that are meant when they are mentioned. They are

Hip-joint disease,
Morbus coxarius,
Morbus coxæ,
Coxalgia,
Chronic articular ostitis of the hip,
Coxo-tuberculose.

If one man tells you that he saw a case of coxalgia, and another a case of morbus coxarius, and another a case of morbus coxæ, you must understand that the same condition is meant. The names have been ascribed by various writers to indicate what they thought was the nature of the disease. I prefer the simplest name possible to describe a disease. "Smith's disease," or "Bright's disease," do not indicate the true condition which is present, and especially is this true of the so-called "Bright's disease." How singularly does this term fail to convey to the mind the various pathological processes, which are grouped under that heading, as a deserved compliment to the investigator and profound student! I prefer the name "hip-joint disease," because it tells us it is a disease involving the hip-joint. You can be more precise, and call it "chronic articular ostitis of the hip," but you should call a disease preferably by the fewest words, and the simplest, and, if possible, by English words. So as to impress you more thoroughly with this disease, I will enter into a consideration of it in a manner directly opposite to the usual method of showing, first, the simpler, and then the graver forms of the disease, and finally the results. I will show you first the results, so as to impress upon you the necessity, as far as is possible, of preventing the condition which will, if neglected, result so disastrously. While I draw your attention to these names of the disease, you must remember

*Delivered at the Jefferson Medical College Hospital.

that they are but the slightest indication of the serious character, as results of failure to make early diagnosis and the application of remedial measures too late to be effective, of the cases which I shall bring before you.

The cases I present to-day show multiple deposits of tubercular bacilli in the bones. The little girl I showed you at our last lecture suffered from tubercular deposits in the soft tissues. This boy comes to us as a case of tubercular caries of the spine in the lumbar region; subsequently he developed on the right side a tubercular hip disease. It is not unusual for these conditions to be present in the same patient, for multiple deposits of tubercular tissue are frequently observed; thus there may be phthisis and a hip-joint disease in the same patient. This boy presents an illustration of the unfortunate results of this disease. Just in front of Pupart's ligament there is a sinus, which is the characteristic tubercular sinus, having the clearly punched hole. Around this are unhealthy granulations, the entire surface being covered with an ichorous, unhealthy pus of a greenish tint, the color of pus coming from a tuberculous caries. This sinus undoubtedly leads to an abscess and dead bone. As far as we are able to obtain the history of this patient, the opening occurred spontaneously, and the sinus will remain open as long as the diseased tissue remains, or until there are efforts made to eradicate the carious bone. Upon the side of the thigh there is a long cicatrix, and in the gluteal region we find another sinus. The long cicatrix followed an attempt at excision of the head of the femur. As to whether the operation was a success or not, I have merely to mention the fact that pus is exuding from the sinuses. These sinuses are indicative of a breaking down of the bone tissue, and do not prove by any means that an inappropriate operation has been performed. The extensive character of the infection rendered it impossible to remove all unhealthy structure at the time of the operation without serious and unwarranted risk to the patient. By an inappropriate operation, I mean an operation which was attempted to be performed, but was from necessity not thoroughly satisfactory in accomplishing the desired result. Thus, an excision of the head of the femur would be inappropriate when a large part of the ilium was diseased, the removal of which would be impossible. The marked difference in the calibre of the legs is due to an atrophy of all the muscles from their disuse. You will notice that in moving the boy, the pus wells out from all the sinuses, showing that the tissues are full. The marvel is that the boy is in his present good condition. The constitution stands the strain far better than you could imagine, but we must bear in mind in the analogous cases of consumption how patient and hopeful such patients are often for years.

HIP DISEASE WITH MULTIPLE SINUSES.

The next child was before you for a few moments at our last clinic, and I bring him before you now to emphasize some points I am desirous that you should understand. This patient is a chronic runner from one hospital to another. He stays at one place long enough to begin at improvement, and then starts anew at another place, where his mother has heard that a brighter prospect exists for his recovery. He has a tubercular deposit in his right hip-joint. There is a long cicatrix anteriorly, which was made some years ago, when a large abscess was opened and cleansed, but no dead bone found. Subsequently an opening on the outer side of the leg below the trochanters occurred spontaneously, discharging an excessive accumulation of pus from the hip. The entire leg was œdematous at the time, in fact almost erysipelatous. Quite recently, upon his entering the hospital, we endeavored by conservative means to accomplish a closure of the sinuses. We did this by means of the iodoform emulsion, and the sinus, as a result, is now almost closed, with no discharge of pus; but I see now, for the first time, a fresh swelling and redness on the inner side of the thigh, indicating a fresh deposit of tuberculous pus. I wish you to bear this case in mind as an illustration of the fact that we will not get the brilliant results in an excision of the tubercular joints that are obtained in much of the other surgery of the present day, and the explanation is that tubercular deposits are often submitted to operative procedure at too late a stage of their progress when complete removal is impossible.

I consider it a matter of the greatest importance that you see the results which so frequently follow this disease, in order that you may understand the reason for the stages of the procedure which I shall give you in detail later. The next case is a most profound example of the results which follow surgical attempts too late to be effective. The boy, as you see, comes in on a crutch and a cane, smiling, and yet he possesses a leg which has been a source of great anxiety to the surgeons who have treated him, as to know just what to do for him. Three years ago he presented himself with several sinuses around the joint,

and pus exuding to such an extent that the radical operation of excision was performed. The head, neck and trochanters were removed, and the parts healed well. Subsequently other sinuses appeared, and the entire wound became a tuberculous mass. These sinuses extended to the lumbar region and appeared all around the joint. At present there is a slight amount of exudation of broken down tissue. Shortening has resulted and you see here a result which is not pictured in the books. This case case shows what may take place, and always does take place, when the operation for excision is performed too late to achieve the desired purpose. There is a sinus anterior to the site of the greater trochanter, and one within near the groin, which is still running. The atrophy and shortening are marked. As the boy stands on his healthy leg he is able to swing the diseased limb to quite a considerable degree, but you will observe that the motion is not of the hip-joint, but at a compensating point in the lumbar region. Nature's efforts are to supplement a destroyed joint by providing another joint which will supply the motion lost by the disease in the joint.

PATHOLOGY OF HIP DISEASE.

Now then, gentlemen, what have we seen? We have seen something by name, let us get a clear idea what the name implies. I do not know how far I am teaching the views of the professors of surgery, but I am endeavoring to teach the modern views of the pathology of these cases. I am opening myself to criticism, I know, when I make the statement that in 95 per cent. of the cases, coxalgia begins in the ephthyses of the head of the femur. Some teach that the origin is in a synovitis; others that it is in the ligaments, and others that it is in the cartilages or in the ligamentum teres. During the last ten years under the methods of aseptic surgery it has become possible to perform operations which have hitherto been impossible. Up to that time and instead of being able to study the pathology of hip disease in its initial stages, we have been compelled to study results, and, by analogy, trace back the condition to the original cause. During the past ten years, however, surgeons have removed the head of the bone in the incipient stages. They have removed the head on the first indication of any serious lesion of the hip, and have found that in a very large proportion the disease began as an ostitis in the epiphyses of the head of the femur. This is a matter of positive fact, so we may lay aside as less important the theory that it can occu r in the tendons, the synovial membrane and the cartilages.

The osseous origin of hip-joint disease is advocated by Gross, Annondale, Marsh, König, Gibney, Volkmann, Bryant, Barwell, Bradford and others, while Sayre and Billroth are among those who teach synovial origin, and the ligamentous origin is favored by Owen, Holmes and Adams.

In sixty-one excisions of the hip performed by Muller, the osseous origin was determined in forty-seven, and synovial membrane in three, while it was impossible to tell accurately in eleven.

Since the discovery of the bacillus tuberculosus by Koch, are cognized change has occurred in the pathology, and now it is becoming an accepted fact that in the very large proportion of cases, the primary origin is in the form of an ostitis. Around the Haversian canals through which nutrient blood vessels pass, there are lacunæ seen under a 1200 diameter microscope, and from these lacunæ, caniliculi run out in every direction, communicating with each other and with the Haversian canals. The nutrient material of the bone comes from the perivascular lymphatics in the central canal and through the caniliculi from one lacuna to another. The Haversian canals become dilated and absorption of bone takes place and the surrounding bone tissue becomes spongy.

The Haversian canals become obliterated in chronic inflammation by deposition of inflammatory deposits, and often the bone becomes very hard and much thicker. In tubercular infection, the deposition of the bacilli takes place in the lacunæ and canilieuli; the bone becomes spongy and there is an increased tendency to degeneration. The process is hyperæmia, infiltration, absorption of trabeculæ and the formation of the enlarged spaces or cavities which become filled with cheesy matter.

Up to this point the progress of the disease is so insidious and the external manifestations so imperfectly marked that discernment is always difficult and often impossible.

From this condition, one of three courses are possible. First, the diseased process may be absorbed, and evidence of this having occurred has been found in pathological specimens.

Secondly, the growth of the deposit may take place towards the periphery, rupture through the periosteum and evacuate itself outside the bone, and be either absorbed from that situation or spontaneously open

through the skin. The latter is often prevented by a timely incision, and the sinus which is apt to be a result of spontaneous opening is thereby avoided.

The third possible course is, I believe, the most common, and gives rise to all of the symptoms and conditions known as the incipient stage of hip disease, namely, rupture of the tubercular ostitis into the joint cavity, thereby affecting that serous tissue with a purulent synovitis.

In proof of the fact that the disease usually occurs in the epiphyses, I wish to show you some specimens of excised heads of femurs. In the first specimen, I ask you to observe with great care that the rotundity of the head is destroyed, and that on the great trochanter the cancerous tissue is seen, showing that at the outset of the disease there was a disease of the bone necessitating the operation. In the second specimen the entire head and neck have been destroyed. An anatomist could scarcely tell what this bone is. The extensive inflammation has also invaded the trochanters. This third specimen, which was removed in adult life, goes just a step further; it shows a smooth head, proving that there was no serious inflammation of the synovial membrane. Just within the head of the bone you will observe this pocket where the original disease existed, rupturing into the joint. Excision took place prior to serious joint invasion with a happy result.

The progress of the pathological changes after a purulent synovitis has been set up are thickening of the capsule, infiltration of the periarticular tissues, thickening of the end of the bone, and formation of abscess. At this point the articular surfaces becomes eroded, and spontaneous luxation takes place, and if the case is untreated, cold abcesses continue to discharge through sinuses, which some times spontaneously close, only for new ones to form. The worst feature is that of which I have already shown you illustrations, namely, the dissemination of general tuberculosis, not infrequently life being terminated by tubercular meningitis.

Thus you will see the great importance of an early recognition of a disease which can be so successfully treated in its incipiency, but which is sure to produce most disastrous conditions if neglected.

I have purposely urged you to study hip-joint disease in the way we have done, so that I might this morning rivet your attention upon the care which is necessary in dealing with the incipient stage of the disease. The *incipient stage* is that period in which the first symptoms of the disease are present. The disease may be, and often is, present long before we are able to discern it by any known methods. It may exist as ostitis for weeks and months without our knowledge, and only be manifested when a synovitis develops itself. The earlier immobilization is applied to hip-joint disease the better will be the result. The truth of this assertion may be seen in those cases which have been allowed to run along, without early immobilization. I believe that in cases where a reasonable doubt exists in the diagnosis that it is judicious to resort to immobilization and await the developement of a certainty rather than to adopt the more common plan of letting the disease develop into a stage that renders successful treatment far more difficult. There is rarely any difficulty in diagnosis when decided purulent synovitis is present, and no credit is due to the one who then recognizes the lesion. The real difficulty lies in perceiving the character of the malady at the earliest possible moment. I believe that sensible parents will esteem you far more highly if you adopt the plan I refer to than to try to conceal your inability or the impossibility to make a diagnosis by recourse to statements that it is only growing pains, sprains, inflammation of the knee-joint, or other statements intended to be soothing. The full development of the disease, notwithstanding the comforting assurances, will be sure to bring you to reproach, and if you have a live conscience to cause unceasing self-condemnation.

If you feel restrained from immobilizing a healthy joint from any fears of ankylosis, let me comfort you with the assurance that in the treatment of ostitis of the hip immobilization has been maintained for a year at a time without ankylosis, and not in one case, but many. Further, that early ankylosis in the proper position as a sequel to hip disease should rather be sought than avoided. In this attempt there will be an entire avoidance of traumatism of motion and a more speedy arrest of the progress of the disease.

PICRIC ACID IN MOIST AND IMPETIGINOUS ECZEMAS.

OINTMENT.

℞ Picric acid ..... part 1.
Sulphuric ether, a sufficient quantity to dissolve.
Lanolin ..... parts 30.
Use externally.

LOTION.

℞ Picric acid ..... parts 1-2.
Sulphuric ether, a sufficient quantity to dissolve.
Rose water ..... " 300.
Use externally.

— Cerasi, *Gaz. Med. di Roma.*

COMMUNICATIONS.

THE NERVOUS AND MENTAL PHENOMENA AND SEQUELÆ OF INFLUENZA.*

By CHARLES K. MILLS, M. D.,
PHILADELPHIA.

All practitioners have been struck by the prominence of nervous and mental phenomena in influenza, and much has been written, but mainly in a desultory way, about the symptoms of the disease which are referable to the nervous system, and its more or less persistent nervous and mental sequelæ. The part played by the nervous system in the etiology and history of the disease has been variously interpreted. One holds that it is a "nervous disease," without explanation; another describes it as pneumogastric neurosis; another as a neuropathy due to ptomaine poison. According to Blocq, cited by Church,[1] the primary infectious action takes place upon the nervous system during the disorder, while sequelæ are to be attributed to secondary infection from ptomaines. Cheston Morris,[2] of Philadelphia, advances the theory that the general symptoms of influenza may be traced to a derangement of function, or partial paralysis of the pneumogastric nerve, and that the affection is brought about by conditions of the atmosphere, which particularly tax the cardio-pulmonary apparatus which is regulated by this nerve, a view which, after all, relegates the disease to an atmospheric or infectious cause. Graves long ago referred the bronchial and pulmonary symptoms of grippe to lesions of the nervous power of the lungs, and Blakiston regarded it as a disorder of the nervous system, with concomitant derangement of the organs of digestion, circulation, etc. Levick,[3] who cites the last two authorities, holds that certain symptoms are produced when the poison is expended on the sensorium, and certain others when its influence is chiefly exerted on the respiratory centres.

The analogies or relationships between influenza and other diseases generally recognized as belonging to the nervous system, either primarily or because of the situation of their most notable lesions, have been strongly brought out by able writers, as by Levick, for example, who has even suggested that epidemic cerebro-spinal fever, or cerebro-spinal meningitis, may be simply a malignant form of influenza, a view to which he was led because of the resemblance in the symptoms of the two diseases, which differ in degree rather than in nature, and also because, for three centuries, the two have occurred coincidently or in close sequence.

Grasset and Rauzier,[1] in a monograph on the grippe of 1889–90, lay great stress on the enormous predominance of the nervous over the catarrhal elements in the epidemic, as evidenced in the high fever, great cephalalgia, the marked delirium, the widespread pain, and the excessive nervous irritability. They refer to cases communicated by M. Coustan, in which the entire symptomatology of the disease seems to have reduced itself to a horrible migraine. They review the literature, which shows that writers of various countries are unanimous in proclaiming the importance of the nervous element—referring to Austrian, Russian, Belgian, German, English, and Polish contributions.

According to Schmitz,[2] who read a paper on the subject before the Psychiatric Society, at Bonn, influenza is a disease of the nervous system with secondary involvement of the heart, lungs and digestive organs. In several hundred cases which he observed, the nervous sympsoms were always primary, followed in every case by secondary involvement of the other organs.

What seems to be needed is an analysis and practical grouping of the facts, almost too numerous to handle, which shows the important part played by the nervous system in the development, progress and results of the disease. How is the nervous system affected by influenza? What are its primary or direct effects on the nervous system, and what are some of the more persistent and permanent impairments, and how are these determined by the disease? What are its acute nervous and mental phenomena, and what are the most common sequences? What is the probable pathology of these states, and what treatment is best in view of the neurotic characteristics of the affection?

---

* Read before the Philadelphia Co. Med. Soc., Jan. 13, 1892.

[1] Church: *Chicago Medical Record*, 1891.

[2] Morris: *American Lancet*, March, 1891.

[3] Levick: *American Journal Medical Science*, January, 1864, and republication in pamphlet form, with notes of the influenza of 1889-90.

[1] Grasset and Rauzier: *Leçon sur la 'Grippe de l'Hiver*, 1889-90; Montpellier and Paris, 1890; Monograph of 98 pages.

[2] Schmitz: *Allgemeine Zeitschrift für Psychiatrie und psychisch-gerichtliche Medizin*, 179, 1891. Cited in *American Review of Insanity and Nervous Disease* December, 1891.

The briefest consideration of the subject brings forcibly to mind the fact that all diseases of infectious or toxic origin—epidemic, endemic, sporadic, or accidental—may strike any or all parts of the nervous system with a result which will be proportionate: first, to the virulence of the infecting agent; and, second, to the resistance of the individual, whether this is due to constitutional predisposition or to reductions the result of previous injury or disease. The microbes may differ, but a bond of union and close resemblance can be recognized between the effects on the nervous system of all contagious and infectious diseases, as variola, scarlatina, diphtheria, measles, whooping-cough, typhoid or typhus fever, leprosy, mumps, cholera, erysipelas, puerperal fever, influenza, or cerebro-spinal meningitis; of all of such constitutional and diathetic affections, as tuberculosis, gout, rheumatism and diabetes; and of all such toxic agents artificially introduced into the system, as alcohol, mercury, lead, arsenic, copper and poisonous gases. These diseases, these diatheses and these poisonous metals and gases produce, or may produce, nervous and mental phenomena of the same character, differing in degree in particular cases and for special reasons.

In all these affections at the time of acute onset, if the illness is of a serious character, such symptoms are present as great mental and nervous debility, irritability, restlessness, sleeplessness, or the opposite states of torpor, stupor, hebetude, or coma; delirium; vertigo or syncope; headache, browache, napeache, backache and limbache; pains of all degrees of severity referred to various nerve areas; hyperæsthesia of the skin, of muscle-masses, or confined to nerve-trunks or branches; spasms, local or general, and with or without unconsciousness; sometimes mental disturbance amounting to a true mania or melancholia. During the progress of such affections any one or several of these enumerated symptoms may be present. Supra-orbital pain, for example, may be the only prominent nervous symptom in a case of influenza; headache and backache in diphtheria; hyperæsthesia in mumps, diabetes, or gout; and mania in a case of puerperal infection. Any infectious or toxic disease may, in brief, produce the same symptom, syndrome, or train of phenomena; and—which is the main point—for the same reason, namely, because of the introduction into the system of an agent which directly and powerfully poisons nerve centres, and possibly also nervous conducting tissues.

Following all infectious, diathetic, or toxic diseases, moreover, or directly springing from them, common experience teaches that we may have great nervous or general weakness; forms of insanity of the depressive type; paresis and paralysis of every grade, from an affection of a single muscle to that of all the extremities, and even more; localized spasm or cramp; general convulsions; pains in nerves, muscles and joints, and losses or perversions of sensation.

These symptoms and conditions, which may occur at the onset, during, or after the subsidence of any infectious or toxic disease, are those which constitute the nervous features of the prevailing epidemic. I have introduced the subject in this way because it seems to me that it is this comprehensive grouping of generically similar phenomena which enables us to most readily grasp a subject even for practical purposes. We differentiate phenomena in our daily labor, which we can only understand by properly grouping them, and by referring them to a common or to related causes.

Any attempt to classify the nervous and mental phenomena of influenza must be attended with great difficulties. These are, in the first place, symptoms and conditions which, although manifested in non-nervous organs, are directly traceable to a nervous origin; secondly, affections which would be recognized by all as properly referred to the nervous system; and, thirdly, affections occurring in nervous tissues and organs, although, strictly speaking, not nervous diseases.

I will refer very briefly to the first of these classes, although of much importance. I will not, however, discuss the nervous origin of the fever of influenza, nor will I attempt to explain the catarrh, indigestion, etc., on some neurotic theory, as such a method might lead us anywhere, and for our present purposes would be unprofitable. I wish simply to emphasize the fact that some of the most prominent pulmonary, cardiac and vascular affections of influenza can best be explained on neural theories. Many personal observations have led me to the conclusion, not new, which has recently been well presented by Elliott,[1] of New Orleans, that the pneumonias of influenza are often due to vasomotor paralysis, that they are, in fact, forms of blood stasis or passive congestion from vasomotor paralysis, which, in its turn, is dependent upon the action of the infection upon the pneumogastric centres and the nervous system in general. A distinct difference can be made out between

[1] Elliott: *The Climatologist*, vol. I, No. 1, Aug., 1891.

the true pneumonic lung and this "grip-lung," as it has been termed by Elliott. Graves long ago attributed the œdema of the lungs which occurs in influenza to an affection of the vagus.

"The grip-lung," according to Elliott, "has a long and very varying condition of passive blood stasis unaccompanied by râles. If resolution occurs within three or four days, it is accompanied by large mucous râles, and no time is given for the slow appearance of bronchial breathing or bronchophony; but during the long continuance of the blood stasis, an exudation occurs, increasing slowly, which will give, in time, some bronchophony and bronchial breathing, but never so complete as in pneumonia. Resolution never occurs in these cases with the suddenness that characterizes it in acute pneumonia the condition passes off as gradually as it formed. The sharp, clear-cut and sudden phases of the pneumonic attack separate it clearly from the obscure, irregular and slow phases of the *grip-lung*."

Many disorders in various parts of the body are best explained on this theory of local vasomotor paralysis, although it is not necessary to attempt to force this explanation for all. Hæmorrhages, minute, or even of considerable size, occurring in diverse localities, as in the retina, membrana tympani, and internal auditory apparatus, or in the skin, or mucous or serous membranes anywhere, may be due to deficient vasomotor tonus. Brain, kidneys, liver, or pelvic organs may suffer from forms of passive hyperæmia, subacute or cronic, which are in fact due to forms of vasomotor palsy. Occasionally we meet with cases of vasomotor disorders of the extremities, such as flushed or pallid fingers.

Even tropic affections have occasionally been observed. Wilson,[1] for example, refers to gangrene of the lungs as one of the less common complications. Abscesses of the limbs have been recorded. Grasset records two observations of eschars occurring in young subjects in the absence of prolonged decubitus. The greater tendency in surgical cases to suppuration may have its best explanation in the depression of healthful vasomotor and trophic influence.

The peculiar forms of pulse, and the uncertain or perverted action of the heart, extending in some cases to cardiac palsy and death, are in a strict sense nervous phenomena due to paralysis, partial or complete, of the inhibitory apparatus of the heart.

Let me take up those symptoms and affections which would clearly be recognized as belonging to the nervous system.

I believe with Church, "that the infection of influenza has a marked action upon the nervous system which may give rise to immediate acute manifestations or to remote and persistent conditions; and that in the predisposed, grippe is competent to cause marked excitement or great depression of the motor, sensory, and mental nervous apparatus."

Great nervous and mental prostration, both as an acute manifestation and as a persisting sequel, has engaged the attention and required the treatment of all practitioners. The mental depression, often present as an initial symptom, has been in some cases, simply overpowering. Some of the patients are affected like individuals whose mental and motor centres have been poisoned to the limits of human endurance, while still permiting the retention of consciousness. In other cases even consciousness itself has been overwhelmed.

Not a few patients who suffered from attacks of influenza during the early period of the present epidemic are still victims of profound neurasthenia. I refer now to cases which are not distinctively of the melancholic type. These neurasthenics are unable to endure a fair amount of work; their nervous forces are soon routed; they are weak, worrisome, and unrecuperative. The cardiac weakness which has been left is undoubtedly in part the cause of this neurasthenia, and with reference to this Church says that "the persisting neurasthenic condition, which so usually follows influenza, is attributed by some to cardiac weakness of nervous origin, and this contention is not without weight, if it is observed that even after appetite, sleep, body-weight, and physical functions have been long restored, the slightest exertion immediately produces disproportionate fatigue accompanied almost invariably by either a retarded or more frequently accelerated pulse, and rarely by præcordial distress and even by angina pectoris."

Curtin and Watson,[1] whose experience in influenza has been enormous, say that although general nervous prostration often extended over long periods without any discoverable local cause, it was always worth while to examine the urine with care. "Sometimes a nephritis, sometimes a faulty digestion or hepatic inaction seem to underlie the general condition in latent form. These cases, by enforced rest and attention to local complications, gradually recovered. These

[1] Wilson: *American System of Practical Medicine*, vol. I., p. 870.

[1] Curtis and Watson: *The Climatologist.*

cases, and nervous cases generally, were very disappointing when sent to the seashore during convalescence."

Among organic nervous diseases which have developed during the influenza or have been left in its wake, are in the order of their frequency, so far as my personal observation has gone, neuritis, meningitis, myelitis, and cerebritis, or various combinations of these inflammatory affections, as, for example, concurrent neuritis and myelitis, meningo-myelitis, or meningo-encephalitis.

Probably no single affection of the nervous system has been so common during and after the grippe, and particularly as a sequel of the disorder, as neuritis. Almost every variety of neuritis, as regards location and diffusion, have been recorded, and have come under my personal notice. Multiple neuritis, while not common, has not been rare; and I have seen a concurrence of this affection with poliomyelitis in the same case. Isolated neuritis of almost every cranial nerve has been recorded, with such resulting conditions as optic atrophy, loss of smell and of taste, opthalmoplegias, both internal and external; oculomotor, facial, and bulbar or pseudo-bulbar palsies of various types, including true pnuemogastric paralysis. Several cases of specially located affections of the sympathetic ganglia or nerves have been recorded. Of the forms of local neuritis most common might be mentioned the supra-orbital, intercostal, sciatic, and plantar.

An interesting case of neuritis, with a myxœdemoid condition of the limbs, presented herself at the Philadelphia Polyclinic recently. She had a sharp attack of influenza five weeks ago, having been in good health up to that time, except five years since when she suffered for several weeks with inflammatory rheumatism. On recovering from the influenza, the attack not having been especially marked with nervous symptoms, she was extremely weak in the legs, and was scarcely able to drag herself around. In a few days her feet and legs began to swell and to be painful, and soon became of enormous size and exquisitely tender. She has gradually improved, but still has a condition of firm swelling, which does not pit on pressure, from her knees to her ankles, and she also still has great tenderness on squeezing the feet or ankles, or in handling the nerves or the muscles of the limbs. She has no cardiac affection.

The articular pain, and other so-called rheumatic manifestations so numerous during and after attacks of the grippe, are, after all, best explained on the theory of infectious neuritis or myositis.

These cases, with articular and other pains, and with swelling, recall the endemic or epidemic form of multiple neuritis, known as beri-beri, in which the chief phenomena are œdema and paralysis of the limbs, with marked pain, hyperæsthesia and paræsthesia, followed later by anæsthesia, lost knee-jerk, and depressed electrical reactions. Myositis certainly, and probably also periositis, occur as complications or sequences of the influenza, and usually in association with neuritis of some type.

Many of the reports speak of the frequent occurrence of various neuralgias. Doubtless a distinction is seldom made by observers and recorders between neuralgia and neuritis, which are or may be separate affections. Practically these cases should be regarded as neuralgic in which pain is referred to certain nerve lines or radiations, but in which pain on pressure, and the other phenomena of neuritis, such as anæsthesia, vasomotor and trophic disorders, and even paralysis, are absent. In my own experience the cases which could properly be diagnosticated as neuritis are by far the most common. The distinctively neuralgic pains are probably due to toxæmically depressed or exhausted sensory nerve-roots or centres in the cord and bulb.

Of diseases of the spinal cord proper, occurring as complications or consequences of influenza, the reported cases are not numerous, but they are none the less important. A few cases of myelitis have been put on record by native and foreign observers—one that I recall in which all four extremities were paralyzed. As would be expected, in accordance with the analogies with other infectious and toxic diseases, anterior poliomyelitis is the most common type. I have had several cases of temporary paralysis of one or more limbs, which, owing to the absence of pain and of cerebral symptoms, were apparently spinal in their origin, and probably light forms of inflammation. Concurrent multiple neuritis and poliomyelitis has already been referred to as having been observed by me in one case, in which the neuritis, which was not severe, soon disappeared, but a limited paralysis, evidently spinal in character, was left behind.

Several observers having reported cases of bulbar paralysis, and one striking example of this disease, attributed to the grippe, has come under my own observation, although exactly how far the influenza was responsible it is difficult to say. This patient, a clergyman, had a severe attack of influenza in May, 1890, and during its progress continued to

work and ate but little. In a very short time he noticed he was losing power in his hands, which soon atrophied. In January, 1891, he began to have difficulties of speech, and, briefly stated, the case went on until November, 1891, when he was first seen by me, his symptoms were those of well-marked bulbar paralysis, with progressive muscular atrophy, chiefly involving the upper extremities.

In accordance with analogy, we would expect the occasional occurrence both of nuclear polioencephalitis, and even rarely Strumpell's cortical polioencephalitis. One or two of the few cases of probable polioencephalitis of the latter type have occurred in patients suddenly stricken with fever, loss of appetite, and other symptoms which may have been due to infection.

Priester[1] has reported the case of a man fifty-four years old, who was taken with influenza in February, and in the beginning of March was seized with extremely violent headache which resisted all medication, and later the patient became deeply somnolent, remaining in this condition for four weeks; he could be aroused, but was apathetic and soon slept again. Reflexes and temperature were normal; pulse from 40 to 60. The patient had no paralytic symptoms, and slowly improved. His affection, according to the reports of the case, closely resembled Gerber's disease — paralyzing vertigo — although the latter is a disease of the warm weather. Tumor could be excluded by the absence of all focal symptoms a year before the attack. The most probable cause he believed, was a pathological process, involving the central gray matter of the third ventricle, which would bring the disease into close relation with polioencephalitis of the nuclear type. Dr. G. J. Kaumheimer, who translated this report for the *Review of Insanity and Nervous Disease*, December, 1891, observed an exactly parallel case which originated in April, and lasted into July before recovery took place.

That meningitis, either cerebral, spinal, or cerebro-spinal, occurs during the decline of the influenza cannot be doubted in the light of the evidence which has been presented by various observers, and particularly during the epidemic of the last three years. It is, however, a comparatively rare concomitant or complication. Some of the facts adduced as proofs of the existence of meningitis, and some of the cases reported as examples of the disease are clearly instances of improper interpretation. The intense cephalalgia and rhachialgia; the atrocious pains variously localized in the face, trunk, limb-nerves, muscles or joints; the vigilant delirium, with hallucinations and delusions, sometimes assuming great gravity; the intense vertigo, with or without nausea and vomiting—these and other well-known nervous manifestations which are so prominent in many cases at the initiation of the disease, are not necessarily evidences of meningitis, or even of meningeal hyperæmia. Rather they are due to an overwhelming toxæmia of the nerve centres and of the brain. Severe and terrible in character at first, they frequently pass away almost as rapidly as they came, which would not be the case if they were the evidences of a true meningitis. The enormous prostration which is left behind shows that the centres of nervous energy have been subjected to a depressing agency of great virulence, not that merely enveloping membranes composed mainly of fibrous tissue and blood-vessels have been congested or inflamed. No reason could be given why such congestion or inflammation should leave such results.

The reports of cases terminating fatally because of meningitis, and even the reports, personal or official, of the frequent occurrence of this affection must be received cautiously, and sometimes incredulously. They are only to be relied on when confirmed by autopsies, or when from observers who are accustomed to closely differentiate the meaning of nervous symptoms, and particularly of pain.

It may also be worth while at this point to refer to the somewhat frequent diagnosis of chronic meningitis as one of the sequelæ of the disease. This diagnosis is usually made because of the presence of more or less persistent pain in or on the head. Experience has led me to believe that this pain is usually neuritic rather than meningeal. Even deep-seated intra-cranial pain does not necessarily indicate meningitis. They may be due to neuritis, just as certainly as a pain in the hand or foot. The fifth nerve has an immense distribution within as well as outside the cranium, largely to the dura mater, but also to other tissues and parts. It is a pathological possibility to have dural neuritis without a pachymeningitis, and this is the true explanation of some pains, both acute and chronic, which are present in other diseases, as well as in influenza.

The form of meningitis most likely to be present in influenza is inflammation of the

[1] Priester; *Wein med. Woch.*, No. 27, 1159. In *American Review of Insanity and Nervous Disease*, December, 1891.

pia-arachnoid, or soft membranes, now often designated lepto-meningitis. From observations, corroborated by autopsies, I know that this affection may exist without pain; while pain of varying degree of severity, and usually intense, is practically invariable in pachymeningitis. Lepto-meningitis, however, is not usually without pain and hyperæsthesia as symptoms, but it may be absent, and its presence or absence will depend upon the location, extent, grade, and complications of the meningitis.

While believing that these criticisms upon the sometimes hasty, and the too frequent diagnosis of meningitis in influenza, and, indeed, in many other infectious and febrile diseases, are just and can be sustained, it remains true that a genuine meningitis, sometimes of malignant type, may appear during the progress, or closely following, influenza. Some very competent observers have reported cases of this character, and in a very few instances the diagnosis has been confirmed by autopsies. The diagnosis should be made to hinge upon the signs and symptoms which would be satisfying as to the occurrence of meningitis from any cause; not alone on the presence of such phenomena as headache, vertigo, and vomiting, but on such more convincing manifestations as optic neuritis, and localized spasms or palsies, either cortical or of cranial nerves.

The fact that meningitis, and even the cerebro-spinal form, does occasionally occur in influenza, is by no means proof that this disease and epidemic cerebro-spinal fever are identical. It simply emphasizes the point with which I started, namely, that every infectious or poisonous agent introduced into the economy may produce the same or similar pathological results in the nervous system. Largely according to the vulnerability, special or general, of certain tissues and organs, will be the preponderance of this or that form of so-called disease—for instance of neuritis, myelitis, meningitis, cerebritis, or of combinations of these affections. All infectious and toxic diseases give neuritis as the most common acute or chronic inflammatory manifestation, although myelitis, cerebritis, and meningitis may occur. Even in cerebro-spinal fever, as I was perhaps the first to point out, multiple neuritis is a common complication; but the infection being virulent and overwhelming, we may not only have mengigitis, but even meningo-encephalitis, or meningo-myelitis, with all their malignant phenomena and permanently disastrious results.

Vertigo is another symptom, like pain, often improperly referred to meningeal or cerebral inflammation. It is sometimes due to such disease, but occurring in influenza it may arise from other causes, as, for instance, from extravasations into the labyrinth or other portions of the auditory apparatus.

Müller[1] reports the case of a man, 50 years old, who, after influenza, presented great physical exhaustion. In a few weeks his mind seemed affected, and he became somnolent, so that he could be roused only with difficulty, and would then fall asleep again. In this respect the case was much like the one reported by Priester. Pain upon pressure was present over the vertebræ, the neck was rigid, the pulse was small and irregular, the skin reflexes were diminished, and the tendon reflexes were absent. In two weeks he began to improve. The author believed the case was one of spinal cerebro-spinal meningitis, similar to that seen after infectious diseases.

Without entering into discussion of their pathology or their peculiarities, I will briefly mention a few other forms of nervous disorder, occurring during or as apparent sequelæ of the influenza, examples of which have come under my personal observation. Convulsions have been reported by various observers, and in a few instances the convulsive habit has been established, and the patients have remained up to the time of report as cases of epilepsy. I have seen two such cases. Hystero-epilepsy and other grave hysterical phenomena have been initiated, or have recurred in cases in which the symptoms had long been dormant. Of local spasmodic affections I have seen no records, but one case of persistent clonic torticollis, with some pain and tenderness in the spinal accessory distribution, has been in attendance at the Philadelphia clinic. Two cases of facial paralysis, occurring immediately upon the heels of influenza, have come under observation.

Many affections not of, but occurring in, the nervous system have been reported as complications or sequences of the influenza. These include such affections as apoplexy, due either to hæmorrhage, thrombosis, or embolism. One of my Polyclinic patients, a man thirty-seven years old, was attacked with influenza in January, 1890. He was not confined to bed, but suffered severely from headache, cough and persistent general weakness, and in February he was suddenly paralyzed in the right half of his body, and completely aphasic. Well-marked cardiac murmurs were present, and the grippe in this and similar cases is probably causative by lightening up old endo-

[1] Müller: *Berlin klin. Woch.*, No. 37, 1890—cited in *American Journal of Insanity and Nervous Diseases*, December, 1891.

cardial trouble, or through the blood dyscrasia and general prostration which it leaves.

Various observers have reported cases of monoplegia and hemiplegia, without indicating the pathological character.

Recently, in consultation, I saw a typical hæmorrhagic apoplexy occurring in a case of influenza in a woman about sixty years old, who had previously been in fair health, and was not known to have had any disease of the kidneys or heart, although her vessels were somewhat atheromatous. Dr. S. S. Prentiss,[1] of Washington, has reported three cases of cerebral apoplexy occurring during the progress of the influenza: one was a man of fifty-seven years of age; another in a man of eighty-seven; a third in a woman of sixty-seven. One of these was probably hæmorrhagic, the other two, from the histories, were probably from thrombosis. In cases of this character the infection of the disease acts to bring about an apoplexy both by the changes which it produces in the blood, by its effects upon cardiac actions, and by the general debility induced. Such apoplexies might occur from other depressing causes; they are to be regarded not as phenomena, but rather as accidents of the epidemic.

Uræmic convulsions in patients suffering from chronic Bright's disease have been precipitated by the influenza, and it has seemed to me to have been active in lighting up lurking syphilitic diseases.

In one case of paretic dementia of somewhat irregular type, seen in consultation, the initial symptoms of the disorder were observed soon after recovery from a severe attack of grippe, the wife and friends of the patient in fact attributing the mental disorder to this attack. The probabilities are that syphilis was present, but latent, prior to the epidemic.

Purulent meningitis and brain abscesses have been somewhat frequently noted in connection with the numerous instances of purulent otitis media.

The relations of influenza to insanity have not received much attention from writers. Mairet,[2] of Montpellier, has recently published a lecture on the subject delivered at his clinic for mental and nervous diseases. Rush, who is referred to by Mairet, speaking of the epidemic which lasted from 1789 to 1791, and particularly of the year 1790, mentions that several persons were stricken with symptoms of insanity, and that one attempted suicide; he also speaks of several having had hallucinations of sight. Bonnet, reporting on the epidemic of 1837, cites one case which was stricken with a furious mania as the result of the grippe; and Petrequin, referring also to the same epidemic, records several patients tormented by melancholy ideas, and states that four or five suicides were accomplished or attempted at the hospitals in Paris.

The following conclusions compress into small compass so much that is valuable, with reference to the relation between influenza and the psychoses, that I cannot do better than quote them. They are reported as the conclusions arrived at by Dr. Leledy, and were presented to the Medical Society of London by Dr. Savage:[1] 1. Influenza, like other febrile affections, may establish a psychopathy. 2. Insanity may develop at various periods of the attack. 3. Influenza may induce any form of insanity. 4. No specific symptoms are manifested. 5. The roll of influenza in the causation of insanity is a variable one. 6. Influenza may be a predisposing or exciting cause. 7. In all cases there is some acquired or inherited predisposition. 8. The insanity is the result of altered brain nutrition, possibly toxic. 9. The onset of the insanity is often sudden, and bears no relation to the severity of the attack of influenza. 10. The curability depends on general rather than on special conditions. 11. The insane are less disposed to influenza than are the sane. 12. In rare instances, influenza has cured psychoses. 13. The insane may have mental remission during the influenza. 14. There is no special indication in treatment. 15. Influenza may lead to crimes and to medico-legal issues.

I can indorse from experience almost every one of these conclusion. With reference to the statement that no specific symptoms are manifested, it should be said that while this in a general sense is true, the most frequent type is a form of melancholia.

The cases of active insanity have been observed at the onset of influenza and during its height, but more particularly during its period of decline and convalescence. The published cases had been recorded chiefly as instances of acute mania or melancholia. The commonest type of grippe mental disorder, as I have just stated, is a form of melancholia or lypemania; but as this not infrequently assumes the form of melancholia agitata, it is often regarded as mania by practitioners not accustomed to differentiate the varieties of insanity. These patients are intensely depressed and emotional; they are filled with

[1] Prentiss: *Medical News.* August 29, 1891.

[2] Mairet: *Grippe et Alienation Mentale.* Montpellier and Paris, 1890.

[1] Savage: *Lancet,* No. 3558, and *Medical News,* January 16, 1892.

apprehensions of disgrace and ruin; they believe that they will never recover their former health; they are suspicious and delusional with reference to those who surround them; they are frequently unwilling to eat, or to rest, or to take medicine, and in some cases they have definite delusions of terrible character, for the most part hypochondriacal or religious. They are frequently plagued with the thought of suicide, and some times make successful or unsuccessful suicidal attempts. They have been deprived, by the ravages of the disease, of mental and moral stamina. In the majority of these cases, but not in all, some hereditary or acquired predisposition is present. While, however, the grippe usually gives us mental disorder of special type—a form of delusional melancholia—under special conditions it may be the starting point or exciting cause of any variety of mental disorder, as mania, paranoia, paretic dementia, hebephrenia, etc., but I can no more than glance at this phase of the subject.

The investigations of Church show that in each year in Cook County, Illinois, the epidemic of influenza has been attended by an increase in the number of proceedings for the commitment of the insane, which he believes cannot be explained by increase or movement of the population of the county.

Of the influenza occurring in hospitals for the insane, I have had no opportunity for observation, except in connection with the insane department of the Philadelphia Hospital. A great disproportion has been observed between the number of cases occurring among the women and the men. One hundred cases are recorded as having occurred among four hundred and sixty female patients; and only three in a larger number of men. The disease did not prove particularly disastrous among these patients, only three deaths having occurred from pulmonary complications. The cases were, as a rule, not of severe type; less severe than in an equal number of sane patients.

K. Helweg[1] has recorded the results and action of influenza in the Asylum at Aarhus, Denmark, and Pritchard has translated and summarized this paper for the *Review of Insanity and Nervous Disease*, for December, 1891. The account is of such interest that I will give it in detail: "The disease appeared in the asylum January 4, a few weeks after it had first been observed in the neighborhood. Out of 520 insane, 41 were so severely attacked that they were confined to their beds. The disease seemed decidedly contagious. It spread with difficulty on account of the wards being divided one from another. Eight of the twenty-five wards were spared altogether. When a ward would be invaded, the disease would rapidly run its course, to proceed to another. The transmission of the contagion could be distinctly seen in the sick wards where those stricken down in the other wards would bring the disease with them and transmit it to patients there. Seven patients had pneumonia. A relatively large percentage (six) died, of which four were from pneumonia. Among these was a man with such a severe cerebral disease that he must be excluded (the post-mortem results in the remaining five, which were women, were all more or less similar). The most essential results were extreme hyperæmia of the cranial bones and membranes, where the dura and the brain mass itself twice presented fresh and strongly vascular pseudo-membranes with small hæmorrhages as well. The veins and arteries of the thinner cerebral membranes were filled to bursting with blood; the large basal arteries were so filled with coagula that they stood out like cords, or those of an injected specimen. The brain substance itself was very hyperæmic, and its consistence increased. The average weight of these brains was about the ordinary of those of Aarhus. The writer also gives the history of the man mentioned, and those of the three other cases where influenza could not be diagnosticated during life, including the post-mortem findings of a case of influenza in a (sane) nurse who died of pneumonia. Here also was great hyperæmia of the brain and its membranes, yet not so pronounced as in the insane cases. The writer has seen influenza accompanied by severe psychic symptoms. In a few cases, the condition resembled acute delirium, which, however, is transient, and seems easily controlled by antifebrin. On the contrary, in two hopeless cases of insanity the disease had such a favorable and curative action that they may be regarded as cured. In both cases there was pneumonia."

The epidemic influenza has impaired the *morale* of the community. Lack of spirit in work, and an apprehensiveness with reference to health, business and all matters of personal interest are abnormally prevalent. The hysterical have become more hysteric; the neurasthenical more neurasthenic. Hypochondria has displaced hopefulness in individuals commonly possessed of courage and fortitude. In brief, certain neuropathic and psychopathic features have been impressed upon the community. We cannot afford

[1] Helweg: *Hosp. Didende*, R. 3, Bd. viii., S. 729.

even to dismiss entirely from consideration the bearings of the epidemic upon the increase not only of suicides, but of other grave crimes.

Many interesting questions in connection with treatment might be discussed; but as the subject of treatment has been assigned in this discussion to Dr. Hare, I will only speak of one point.

The use in influenza of hynotics, narcotics, sedatives and motor depressants is a question of particular interest in connection with the study of the nervous and mental phenomena of the disorder. The views of practitioners and writers are here decidedly at variance. Serious mental and nervous complications or actual insanities occurring during influenza have been attributed to the too free use of such chemically powerful remedies, as phenacetin, antipyrine, antifebrin, choral, bromides, sulfonal and paraldehyde; and our older narcotics such as opium, hyoscyamus, conium and cannabis Indica, have also come in for a share of blame. Persisting conditions of nervous prostration, and chronic respiratory and cardiac neuroses, have also been charged to drugs. Undoubtedly such criticisms have some foundation, but it remains true that each of the remedies named has proved itself of some value in the treatment of influenza, and particularly of its nervous types. The enormous consumption of a drug like antipyrine is a practical argument both for and against its use. What Grasset has said of this remedy might with almost equal truth be said of almost any of the rest. "This agent," he says, "vaunted by some as a panacea against all manifestations of the disease, is considered by others a remedy absurd and irrational in all cases." The truth would seem to reside between these two extreme opinions."

NEW STUDIES OF SACCHARIN.

C. Kornouth (*Ber. d. Deutch. Chem. Gesellschaft*) reports as the result of extended experiments that saccharin notably hinders the fermentation of beer yeast, and virtually stops it so soon as the amount added reaches 5 per cent. Other micro-organism, however, appear to be less easily affected by the agent, and some are entirely indifferent to it. Administered, even in enormous doses, for a long time to dogs, ducks, hogs, etc., it had no apparent affect either upon the weight of the animals or upon their appetite for other foods. None of the animals showed any aversion to saccharin or to articles with which it was mixed, and which they ordinarily ate.

IDEAS OF LUKJANOW ON THE PATHOLOGY OF THE CELL.*

By AUTHUR MacDONALD.
GEORGETOWN MEDICAL SCHOOL, WASHINGTON, D. C.

Whether there is a fundamental difference between the pathological and abnormal is unknown. A sixth finger is sometimes given as an illustration of the abnormal only; but this may be due to a pathological process in utero. On the other hand, the basis of the pathological seems to rest in the last analysis upon the abnormal; or abnormal increase of the physiological. It may not be uninteresting therefore to follow Lukjanow in some of his ideas on the pathology of the cell.

A general pathology of the cell treats of the forms of functional disturbances in the life of the cell. Here we should distinguish sharply from pathological histology, the main object of which is to establish morphological laws. Cellular pathology has also to show how far functional disturbances may be derived from morphological changes. The constructing of the pathology of the cell is at first beset with numerous difficulties. Omitting morphological questions and passing over to physico-chemical characteristics of the normal cell, we must admit that concerning these latter we know very little. Yet behind the morphological structure stands the physico-chemical.

But an investigation of the pathology of a cell presupposes that the normal life of the cell is reduced to a series of more or less exactly determined functions. But such is not the case.

The ideas concerning the functions o. growth, nutrition, multiplication, motion and feeling are very far from clear. There is rather a maze of contradictions. One of the greatest difficulties is that the relation between the morphology and function of a cell is for the most part a complete enigma. The most fundamental of all questions in cellular biology, is whether the cell is an elementary organism. The investigations of the present throw serious doubt upon this, and show that the cell is rather a complex organism, just as the bodies of the higher animals and plants are composed of cells. According to Altmann[1] the active "*granula*" are, like the cells themselves, living elements, capable of multiplication; the granule has

*Lukjanow, S. M.—Grundzuge einer allgemeinen Pathologieder Zelle. Leipzig, 1891.

[1]Die Structive des zellkerness Archiv. von Du Bois Reymond, 1889.

the same relation to the cell as the cell does to the whole organism. In certain cells according to Steinhaus,[1] the "*neucléolenoyau*" can be a parasite. The solution of the question as to what forces bring the moving parts in the direction of this or that nourishment seems to lie in chemism.

Cells have sensibility, the elementary form of psychical activity.

It is said that no lifeless object can be diseased; but from the mechanical stand-point no definite line can be drawn between lifeless and living nature; an irregularly formed crystal is like to an irregular growing diseased cell.

According to Virchow, the substratum upon which pathological manifestations play, is a repetition or reproduction of the normal morphological substratum; this shows that the fundamental principles of structure in the elements of newly formed pathological tissue are the same as in normal tissue. The pathological character of the morphological substrata consists in this, that they arise in an unfit way; at the wrong place or time; or they may diverge from the type of the body depending on an abnormal increase of the number of the tissue-elements ("*hyperplasia*"). Thus every heterology is either heterotopy (*aberratio loci*), or a heterochrony, (*aberratio temporis*), or merely a quantitative deviation, a heterometry, which rests upon an abnormal increase in volume of the single morphological elements—a *hypertrophia*. A neoplasm can be heterological as to tissue, place or mass. Heterology signifies a difference in species in the type of the development of the new as opposed to the old, or as one is accustomed to say in degeneration, deviation from the typical form (Virchow).[2]

The heteroplasia, in the narrow sense of the word, is a deviation of the type of development of the tissue, and not merely in the outer conditions of its genesis. Cohnheim has sought to reduce all to anomalies of embryonic development, which lead to a remnant of embryonic germs in mature tissue; but he succeeded only in gaining intimations. In short, there is no reason to assume in the cells an independent function with the task of a transforming character; the cells in pathological relations *preserve their specific character just as they do under normal relations.*

If a parallel incision to the long axis is made through a "stentor," yet not the whole length, the parts do not fall to pieces; each one forms the failing part anew, and in this way we obtain twin forms, whose end (behind or before) is doubled, while the other end remains single[1]. From this we see that teratological forms, at least in certain cases, are nothing else than results of regenerative processes, which followed from outward "*insulte.*"

The whole doctrine of the immortality of the monoplastidiæ is still a hypothesis, which needs further investigation; for the cell is very probably a complex whole.

Under pathological conditions, nothing new arises in the cells, either morphologically, physico-chemically or functionally. The pathology of the cell is contained *in potentia* in its physiology. The general biology of the cell will be complete when its normal and pathological physiology has been united into a harmonious whole. We call a certain phenomenon in the life of the cell diseased, if it proceeds with a tangible injury to the cell; that is, if the cell deviates from its normal way, and so much that the return to its path is either questionable or plainly impossible. In normal conditions cells in the organism die; but this is to be distinguished from their premature dying. In general, it can be said that the group of physiological phenomena is characterized by a general tendency to the maintenance of life; while the group of pathological phenomena shows a tendency to destroy life.

As before indicated, investigations show more and more that the cell is no simple whole but a compound one; the single parts which constitute its morphological structure are, to a certain degree, independent; accordingly the pathological disturbances in the life of the cell can be considered not only in relation to the cell as a whole, but also in relation to single elements in its structure.

Between the body and the nucleus of the cell, there exists a very close relation, whereby in the action between the two, the most importance is attached to the cell-body. The essence of this relation in its universal form can be reduced to the nourishing of the cell. It is very probable that the indirect transmission of nutritive matter from the nucleus into the body of the cell, is in the life of the cell as a whole of greater importance than the delivery of the products of life of the body to the nucleus.

---

[1] Karyophagus salamandral. Virchow's Archiv., 1889 Bd. CXV.

[2] Cellular pathloogie.

[1] Gruber, Uber Kunstliche Theilungen bei Infusoren. I u. II Mittheilung Biology. Centralblatt. Bd. IV, Nr. 23, u Bd. V, Nr. 5.

A PROTEST AGAINST CARELESSNESS IN THE EXAMINATION AND TREATMENT OF FEMALE PATIENTS.*

By M. B. WARD, M. D.,
PROFESSOR OF GYNÆCOLOGY, KANSAS MEDICAL COLLEGE, TOPEKA, KANSAS.

The members of our profession are, as a rule, desirous of obtaining knowledge at any reasonable sacrifice of time and money. We, therefore, leave our homes, our practice, and often very sick patients, and wend our way to Medical Societies and Medical Centres and go out of our way to gather a little here and a little there, with the one purpose in view, viz.: The better to fit ourselves for the great responsibilities of the general practitioner or the specialist. The physicians' sacrifice of time, money and life's comforts to serve their *clientele* is not excelled by any other calling or profession. Our most intimate friends, and even our near relatives, have but a faint conception of the everyday toil and midnight study of the earnest, honest and busy physician and surgeon.

Most of the essays read at Medical Societies and lectures delivered in Medical Colleges are prepared when other people are in bed and enjoying their rest, while the physician is toiling and studying how best to relieve suffering, prevent disease and to save life. Whatever of profit there may be in carrying out this great scheme of life preserving, it cannot for one moment be compared with the comfort of knowing that what we have done for our patients was the wisest thing that could have been done, and that no one could have done better. This is a standard of perfection which we should all strive to attain. In spite of our endeavors, however, to do the right thing at the proper time, we often come short of the mark. The field is too large and the complications too numerous, and thus the necessity of dividing our work, that some may go East, and some West, some North, and some South, in search of truth and experience, and then come together at these various Medical Society meetings and unload at the feet of all the facts we each have garnered, keeping nothing back; and, after reviewing our work and comparing notes with each other, we disband to go out again to do better work, more good and to receive our reward. We do not always get credit for the good we have done—but often we are praised for bad work performed. I believe in the general rounding up the world is fair and is usually correct. We may deceive our friends sometimes, but not always.

It has been both my misfortune and pleasure to have had only recently two cases which will clearly illustrate the danger referred to. I say misfortune, because it is unfortunate to be called to examine and treat grave cases which have baffled other, and perhaps better, surgeons; and it is a pleasure, on the other hand, to be conscious that our diagnosis and treatment were correct and satisfactory. I have selected these two cases to report at this time for the following reasons: First, they gave unusually obscure histories of pelvic disease, which fact alone will, I am certain, convince you that these conditions are more common than formerly supposed; second, they both had been East to consult prominent men, and both returned home not benefited; third, they are physicians' wives, and the history of their suffering and relief comes home to us with more than ordinary emphasis; fourth, I have been urged by their husbands, both prominent men in our profession, to report these cases.

Mrs. Dr. S., aged 24, gave the following history: Born and raised in Kentucky, surrounded by all the luxuries of Southern life, she passed her girlhood without any serious illness. Her menstruation was often painful, but not serious enough to attract any special attention. She married at nineteen; gave birth at twenty. She was in fair health and strength until about two years ago, when she began complaining of her left side, much suffering during menstruation, insomnia, extreme nervousness, great tenderness in both ovarian regions, but worse on the left side. This state of things increased until she was taken to Louisville, Ky., and consulted a prominent professor in that city. She was assured that nothing was wrong with the uterine adnexa, but that there was a slight endometritis. She returned to her home in S——, in this state, and settled down to her fate, i. e., to suffer the balance of her life. She consulted me about two month ago, and upon examination I found quite a mass on the left side, an adherent uterus, great tenderness on both sides, with a history of two attacks of pelvic peritonitis.

I diagnosed her trouble double salpingitis and ovaritis with adhesions everywhere, and without hesitation recommended an early operation for removal of the left appendages, and perhaps, also of the right. As soon as the doctor could arrange his affairs, he came

* Read before the Golden Belt Medical Society, in Salina, January 7, 1892.

with his wife to Topeka, and I removed these tumors.

Mrs. S—— convalesced in twenty-four hours, was up and as well as ever in two weeks; and returned home, over two hundred miles, in three weeks after the operation. The signs of suffering so plainly marked in her face have entirely disappeared, and she is now a rosy cheeked, bright faced young woman.

The gratitude of the doctor and his estimable wife is unbounded.

Mrs. Dr. M——., age 39, gave the following history: As a girl she was surrounded by all the comforts of life, yet she had always been quite a sufferer at her menstrual periods. Married at the age of twenty-six; had not borne children. For a number of years had been constantly a semi-invalid.

Her suffering was confined principally to her back and sides. So nervous was she that the least excitement would make her quite ill. She had much trouble from irritation of the bowels, particularly the rectum. When unusually nervous there would be a constant tenesmus which often amounted to frequent mucus discharges that annoyed her extremely. This condition led her to conclude her trouble to be entirely rectal.

The doctor at last became desperate regarding his wife's condition, and took her to Pittsburg, Pa., to consult an eminent physician of that city. He examined her, and pronounced her trouble entirely rectal, and treated her by dilating the rectum. This put her in bed for some time, and yet, it seemed to help her subsequently. At least she was for a time somewhat improved. She was assured by the Pittsburg physician that there were no signs of diseased appendages. Since her return home she has been treated for rectal trouble by a second dilatation, which again caused her to be quite ill for some time.

Mrs. M—'s, condition gradually became more desperate, until she had given up all hope of recovery. I was called in to see her about November 15, 1891, and after reviewing her history as given by herself and doctor, I made an examination of the rectum, then the uterus and appendages through the vagina, and also a second time by the rectum.

I found a prolapsed and adherent right ovary. The tenderness of these organs made the examination quite painful. I had no trouble to convince them that the rectum was not, at that time, diseased, and so far as I could judge, never had been. The rectal irritation was due entirely to the prolapsed and adherent ovary which had drawn the uterus down in a retroflexed position and was holding it there. This position of these organs caused a constant dragging down on the rectum, and naturally constant suffering.

I recommended the removal of the left side without delay, and advised them that in all probabilities both sides were entirely destroyed by adhesions. The operation was done four weeks ago to-day, (Jan 7, '92), and the patient went home, or left the hospital in less than four weeks from day of operation.

The operation was one of the most difficult I have ever had. The left tube and ovary were greatly enlarged and universally adherent to each other. They were adherent to the intestines so that it was very difficult to separate them, it requiring all my strength to remove them. The right side was quite as firmly adherent as the left, and the pathological condition about the same. The fimbriated extremities of both tubes, you will see, were occluded by large sacs of cystic fluid. The operation confirmed my diagnosis.

The condition found, was, in short, prolapsed adherent and enlarged ovaries; double hydrosalpinx, with large cysts in the fimbriated extremities of the tubes, entirely shutting off communication between ovaries and uterus; retroflexed and adherent uterus; and intestinal complications.

Mrs. M—— has had no trouble with her bowels since the operation. She made an uneventful recovery, with the exception of a severe attack of *la grippe*. She was up and around the house in three weeks from the time of the operation. She is as happy as any one can be, unless it be her husband. In the place of care-worn features, she looks as bright and fresh as a young girl. This is not an over-drawn picture.

I could refer to a number of cases of this character, which have come to my knowledge recently, but these are quite sufficient to illustrate my point. The country is full of women who are suffering from these conditions, as only women can suffer. Let us, therefore, be more thoughtful in our diagnosis and treatment.

SULPHURATED LANOLIN.

Seibel of Germany heats together crude lanolin with 20 per cent. of sulphur to a temperature of 120° C., until the greater portion of the sulphur becomes dissolved. The decanted dissolved portion is heated to 230° C., or until hydrogen sulphide vapors begin to evolve. The product is of a dark brown color, and will be used in the manufacture of sulphur soap principally. Seibel obtained a patent.

DOES ETHER ASSIST DIGESTION?

The effect of ether on the digestive processes in healthy subjects has been recently investigated by Dr. Gurieff, who gave thirty drops of sulphuric ether to six healthy persons during dinner, which consisted of about half a pint of soup, four ounces of meat, and six ounces of bread. It was found that the ether had the effect of stimulating the action of the gastric glands, increasing the free hydrochloric acid in the gastric juice, and causing the peristaltic movements of the stomach, together with its power of absorption to increase, thus, on the whole, exercising a favorable effect upon the gastric digestion. The same result was obtained when the ether was administered by means of hypodermic injections. It would appear, therefore, that the effects must be ascribed to a general, rather than to any merely local, action on the mucous membrane of the stomach. Dr. Gurieff is disposed to think that there is a stimulation of the cephalic centres. This view is partly based on the observations of other Russian observers—Bekhtereff and Miloslevski, and Pavloff and Shumova-Simanovskaya—on the dependence of the gastric functions upon the central nervous system.—*Lancet.*

THE CONSTITUTION OF THE SWEAT.

From a study of the constitution of the secretion of the sudoriferous glands, Gaube (*Comptes Rend. des. Séances de la Soc. de Biol.*, November 6, 1891) has found that the sweat is of acid reaction in man, but alkaline in the horse, the cow, the dog, the cat and the pig. Both in animals and in man the secretion contains albumen. The total amount of nitrogen in the sweat is greater than that represented by the contained urea; the excess is largely due to the presence of albumen and albuminoids. In man and in animals the sweat contains diastasic ferments, which are called hidrozymases. In man there are three—an amylase, a pepsin, and an emulsin. In the horse there are two, an amylase and an emulsin. The sweat of man contains little amylase, less pepsin, and still less emulsin; that of the horse and of several other animals contains less hidrozymases than does the sweat of man.

SELECTED FORMULÆ.

HIVES.

Dr. J. J. Liggett commends the following in the *Med. World*:

℞
Potassii iodidi.....3 v.
Vini colchici sem.....3 j.
Tr. cimicifugæ rac.....3 ij.
Tr. stramon.....3 ss.
Tr. opii. camph.....3 iss.
M. Sig. From gtt. xv to 3 j, three times a day.

BRANDY WITH EGG.

To administer brandy to infants, Elroy recommends the following:

℞
Brandy.....f 3 i.
Cherry-laurel water.....gtt. v.
Yolk of egg.....No. ij.
Powdered sugar.....3 vi.
M. Sig. To be given in the course of a day, a small spoonful at a time.

—*Rev. de Clin. et de Thér.*

SEMINAL EMISSIONS.

℞
Potassi bromide.....ounce 1.
Tr. ferri chlor.....“ 1.
Aqua pur.....ounces 3.
M. Sig. One or two teaspoonfuls in water one hour after meals and at bedtime.

—*Canada Lancet.*

SCIATICA.

Concerning this disease, Dr. Eliot, New Haven, Conn., makes the following suggestions (*New York Medical Journal*):

1. A large proportion of cases of sciatica are neuritis, and not simply neuralgia.

2. Temporary relief of suffering should be secured by hypodermic injections of morphine and atropine, or of theine.

3. Among curative agents, salicylate of sodium and iodide of potassium are especially valuable—the former in acute, the latter in chronic cases.

4. Considerable benefit may often be derived from the administration of the more purely neurotic drugs—aconite, belladonna and gelsemium, as:

℞
Ext Belladon., fl.....drachm ½
Ext Aconiti., fl.....drachms 1½
Ext. Gelsem., fl.....ad “ 6.
M. Sig. Give six, seven or eight drops every four hours.

5. Cantharidal blisters are of great service in promoting the cure of the disease, when used in conjunction with appropriate internal treatment.

HAIR WASH IN SEBORRHŒA CAPITIS
(particularly in women with long hair).

℞
Ether spirits.....parts 1000.
Benzoin tincture.....“ 100.
Vanillin.....part 1.
Heliotropin.....parts 3.
Geranium oil.....“ 2.
Use externally. Pour a tablespoonful on the head once a day, after washing (or without previously washing), and rub in with a fine cloth. (Inflammable!)

—Leibrich, *Ther. Monat.*

PAINLESS DILATATION OF THE OS UTERI.

Dr. R. Lefour (*La Semaine Médicale*, No. 50, 1891) soaks his laminaria tents eight days in the following solution before using them to dilate the os uteri:

℞

Ether	grammes 85.
Iodoform	" 10.
Cocain, pur	" 5.

He prefers the pure alkaloid, cocaine, to its salt, the hydrochlorate, as the anæsthetic action of the cocaine salts is less than that of the pure alkaloid.

IRRITABLE HEART.

The *Indiana Medical Journal* gives the following:

℞

Tinct. passifloræ	♏ xx.
Tinct. verat. viride	♏ xl.
Ext. chimaphilæ, fl	ʒ j.
Syr. limonis	ʒ ij.

M. Sig. Teaspoonful before meals.

ROUND WORMS IN CHILDREN.

The following (*Centralblatt für d. ges. Therapie*, No. 8, 1891) is praised as a useful rectal injection in cases of round worms in children:

℞

Naphthalini	grammes 1–1.50.
Ol. olivæ	" 40–60.

STOMATITIS IN CHILDREN.

Where the trouble is extensive and painful, the *Province Médicale* recommends the following treatment:

1. The gums should be brushed with—

℞

Cocaïnæ hydrochlor	gr. iss.
Sodii chloridi	gr. xv.
Glycerin,	
Aquæ	aa ʒ ijss.

M. Use a camel's-hair brush.

2. A spray of a solution of boracic acid should be frequently used.

3. Bromide of potash internally.

ANTISEPTIC ADHESIVE OINTMENT.

The following is an antiseptic adhesive ointment used at the Hôpital St. André:

℞

Zinci oxidi	gr. ivss.
Zinci chloridi	gr. xxiiss.
Gelatin	ʒ v.
Aquæ	ʒ viiss.

M

The dressing protects the surface of wounds and dispenses with the use of bandages after operations. It is especially of service for the dressing of wounds on the face.—*Gaz. Heb. des Sci., August 16, 1891.*

ORCHITIS.

℞

Ammon. muriate	drachms 2.
Sprts vini, rect	ounces 2.
Aquæ	" 2.

M. Sig. Use as a lotion

—*St. Louis Courier of Medicine.*

ECZEMA OF CHILDREN.

The following formula is recommended for eczema of children:

℞

Bismuth subnit	10 grammes.
Zinci oxyd	2 "
Glycerini	8 "
Acid carbol	gtt xx "
Vaselin. albi	30 "

or ℞

Bismuth subnit	20 grammes.
Zinci. oxyd	5 "
Acid. carbol	2 "
Vaselinæ albi	70 "

M. S. Ext. use.

When there is much irritation and itching:

℞

Bismuth subnit	5 grammes.
Glycerinæ	20 "
Acid carbol	gtt. xij "
Aquæ rosæ	30 "

M. S. Shake well and apply with a soft brush.

—*Deut. Med. Woch.*

MATISM.

Dr. Hening (*Lo Sperimentale*, No. 18, 1891) praises the following:

℞

Salipyrin	grammes 6.
Glycerin	" 14.
Syrup raspberry	" 30.
Ad. destillat	" 40.

A teaspoonful every half hour, only taken in the afternoon.

The pains and temperature diminish after the administration of this formula.

STRYCHNINE IN ALCOHOLISM.

Dr. Portugalow (*Lo Sperimentale*, No. 19, 1891) treats all forms of alcoholism with the nitrate of strychnine:

℞

Strychnin. nitrat	cgms. 6
Aq. destillat	gms. 15.

For hypodermic use. Inject once or twice daily, first 5 dgms. (7½ ♏), then 25 dgms (37 ♏).

Generally ten to sixteen injections are sufficient. Small doses of the bromide of sodium may be given simultaneously.

WHOOPING COUGH.

℞

Oil of eucalyptus	grains 6.
Spirits turpentine	" 6.
Alcohol	" 45.

M. Sig. As an inhalation.

—*Dietetic Gazette.*

RHEUMATOID ARTHRITIS.

Prof. DaCosta prescribed the following treatment for a woman aged forty-five years:

℞

Ammonii iodidi	gr iij.
Aquæ cinnamon	ʒ j.

M. Sig. Three times daily, with massage of the joints affected.

—*Coll. Clin. Rec.*

THE
MEDICAL AND SURGICAL
REPORTER.

ISSUED EVERY SATURDAY.

THE BUTLER PUBLISHING CO., (Incorporated),
PROPRIETOR AND PUBLISHER.

EDWARD T. REICHERT, M. D., Editor,
(Professor of Physiology, University of Penna.,)
Office, S. W. Cor. 36th and WOODLAND AVE.,
Philadelphia, Pa.

CHAS. K. MOUNT, Advertising Manager.

DIRECT ALL COMMUNICATIONS TO
P. O. Box 843. Philadelphia, Pa.

TERMS: Five dollars a year, strictly in advance, unless otherwise specifically agreed upon. Sent 3 months on trial for $1.

REMITTANCES should be made payable to the BUTLER PUBLISHING CO., and when in sums of five dollars or less should be made by **postal note, money order** or **registered letter.**

THE POCKET RECORD AND VISITING LIST.

Two sizes. Prices to subscribers of THE REPORTER: For 30 patients a week (with or without dates), $1.00. For 60 patients a week (without dates), . . $1.25. Prices to non-subscribers, $1.25 and $1.50 respectively.

THE MODEL LEDGER.

Physicians who keep their own books will find this of great value. Enables the Physician to make out his bills with great ease, and gives at a glance the amount earned, received and due in any quarter. Sample pages sent on application. Price, $5.00.

BINDERS
FOR THE REPORTER.

Each Binder will hold copies of the Reporter for six months.

"The Medical and Surgical Reporter" stamped in gilt on the back.

PRICE, 50 CENTS.

PLEASE SEND MONEY WITH ORDER.

Address,

THE BUTLER PUBLISHING CO.,
P. O. BOX 843. PHILADELPHIA, PA

LEADING ARTICLE.

UNUSUAL MANIFESTATIONS OF EPILEPSY.

It may safely be asserted that no other disease exists exhibiting such marked typical features as does true or essential epilepsy, which, at the same time, is so infinitely varied in its expression. Many other affections present themselves in varying ways, and often with but one of their characteristic features to enable us to recognize them, but from the typical epileptic seizure it is easy to count hundreds, almost, of other symptoms which clearly point to the same causative pathological state. As an instance of the absence of the chief symptoms of a disease we may point to exophthalmic goitre, in which the bulging of the eyeballs, or the thyroid enlargements may not be present, still we know that we have to deal with the same pathogenesis as if all three cardinal symptoms were clearly and typically observed. In like manner, in epilepsy we may find any of its clinical symptoms absent and still be certain that we have to deal with the same neuropathic disorder.

From time immemorial certain prominent symptoms of epilepsy have been considered as the striking features of the disease, and rightly so, for they are by far the most common and impressive. These could not be more typical: The well-known fall to the ground, preceded or not by cry or aura, complete unconsciousness, succeeded by convulsive contractions of the muscular system, and ending in a deep sleep. These symptoms have been, and are to-day, very generally considered as a *definition* of epilepsy. Where, however, a broader view is taken of all the symptoms which occur of undoubted epileptic origin, it is seen at once that any definition, including simply these standard phenomena, is wholly inadequate.

Let us briefly notice some of the more common modifications of the epileptic paroxysm. First, the convulsive movements may be absent in the attack. This is so in *petit mal*, which all authorities have agreed

upon as being an expression of essential epilepsy. In this form of seizure sudden loss of consciousness is the sole symptom. Convulsions are also absent in many other forms of epilepsy, which will presently be referred to. Loss of consciousness has long been considered one of the cardinal features of epilepsy, but in many cases of local lesion of the brain we know it is absent, and many cases have been reported in which, during the epileptic attack, consciousness was preserved. It may be objected that such cases should not be termed epilepsy, still it must be remembered that cases of local cerebral lesion are often attended by general convulsions, with complete unconsciousness, so that it may be impossible to clinically separate cases in which there is only local convulsions, without loss of consciousness, from cases having the same pathology and attended by general convulsions, with absolute unconsciousness. Therefore, the tendency of the highest authorities upon the subject is to use the term epilepsy, even if the convulsions are limited and consciousness is retained. Again, cases have been recorded in which a subjective sensation has been the only symptom of the attack. Thus, Dr. S. Weir Mitchell reported a case in which a loud sound in one ear was the sole symptom, and classifies the case as purely physical epilepsy. The deep stupor or sleep which usually follows an epileptic seizure may be very variously substituted, but most commonly by excitement, mania, automatic procedures, etc., or it may be very brief, or prolonged for days even, or, finally, it may be entirely absent. Some authorities (particularly English writers) lay stress upon the *aura* as being very commonly present in epilepsy, still all admit its varied character, and that in a large proportion of cases it is wanting. In a large class of cases it may be the main symptom complained of. Especially is this true where it takes the form of sudden and severe local pains in the head or in the cardiac region, in some cases of which the patients will only complain of sudden attacks of pain; thus, upon careful observation, momentary unconsciousness, with convulsive twitchings, more or less general, may be seen, and so lead to a correct diagnosis.

Under the term masked epilepsy a large number of cases have been described by different writers, in which the disease appeared in the form of unaccountable acts upon the part of the patients so afflicted, who afterward remembered nothing of them. These cases of what may be termed *epileptic automatism* are exceedingly interesting, particularly from a *medico-legal* standpoint. Thus, cases have been reported where the patient suddenly becomes unconscious, but is apparently in his normal condition, and may continue his work, or, as in a case reported by Hammond, may travel and transact business for days together, finally suddenly becoming conscious and unable to give any account of his actions. Very interesting cases of this rare form of epileptic seizure have been reported by Bucknill and Luke (*Psychological Medicine*, Ed. IV, p. 337), Legrund du Saull (*Etude Medico-legale sur les Epileptiques*, Paris, 1877), Hammond (*Treatise on Insanity*), Spitzka (*Insanity*), H. C. Wood (*Nervous Diseases*, p. 460), C. M. Hay, M. D. (*Journal of Mental and Nervous Diseases*, June, 1889), and others.

Another form of epilepsy which may properly be classed under the same head is running epilepsy or *epilepsia procurrens*. In this form of attack sudden fits of running, more or less prolonged and violent, may be the sole symptom. It is attended by complete unconsciousness, and if the patient is interfered with in this state, he may be extremely violent and commit any crime, or, as in a case reported by C. M. Hay, M. D., (*Journal of Nervous and Mental Diseases*, N. Y., June, 1889) the attack may assume the form of an ordinary attack of *grand mal*.

In an interesting paper descriptive of many unusual cases of epileptic phenomena, S. Wilks, M. D., F. R. S., consulting physician to Guy's Hospital, London, discusses the question as to whether coma or sleep may be the only symptom of epilepsy. He thinks it may be so, and cites several cases in support of this belief. Doubtless the literature on the subject will strongly prove that periodi-

cal attacks of coma should be classed as an epileptic symptom, of just as much significance as the brief attacks called *petit mal*, or the very varied manifestations classed together as *epileptic automatism*. If we admit that coma may be the sole epileptic symptom in any case, it instantly suggests the question as to the possibility of partial unconsciousness being at times due to the same cause. All are more or less familiar with the queer actions, the dazed condition, and the various subjective sensations which affect many cases of chronic epilepsy, and also with the different mental and physical states which follow fits in such subjects, varying from simple defect of attention to violent mania or profound coma, and from slight paresis to complete, but usually evanescent, paralysis of motor functions. How far these manifestations, when occurring alone periodically, are in accord with our definition of epilepsy is a question which must be considered as partially answered, at least, by many reported cases of unusual epileptic phenomena which have been considered.

The practical side of these states to the general practitioner is undoubtedly from the standpoint of diagnosis and treatment, while to the pathologist they open the most perplexing of problems for reasonable solution. How is it that the same underlying cause can produce such varied symptoms as the ordinary epileptic seizure, attacks in which any of the cardinal symptoms of the disease may be absent, masked epilepsy or epileptic automatic consciousness, periodic coma, running epilepsy, purely physical epilepsy, and attacks of mild uncontrollable epileptic mania? Certainly a completely satisfactory answer is not contained in any one of the numerous and ingenious theories regarding the physical basis of epilepsy, and the disease must still be reckoned among those which are chiefly of *clinical* interest.

A CORRECTION.

The name of the author of the communication in the issue of Jan. 30th, on Gumma of the Iris, is Florence Mayo, not Mays, as published.

BOOK REVIEWS.

COOKERY FOR THE DIABETIC, By W. H. & Mrs. Poole, with a preface by Dr. Pavy. London and New York, Longmans, Green & Co., 1891. Price, $1.00, cloth.

No one will gainsay that a most important part of the treatment of diabetes is in the patient's dietary, and that, as a rule, the afflictions of this class of cases are greatly increased by the intense wearisomeness of the plain unvaried diet to which they are subjected. The authors of this little book have endeavored to give to the diabetic a knowledge of the scientific principles on which the diet is based, and recipes for preparing such articles as come within the special dietetic range, so that they will not only be palatable and pleasing to the eye, but afford sufficient variety to avoid the horrible monotony ordinarially experienced. The book can be highly recommended.

A COMPLETE MEDICAL POCKET FORMULARY, also a special list of new drugs with their dosage, solubilities and therapeutical application; of formulæ for suppositories; formulæ for hypodermic medication; list of drugs for inhalation; tables of poisons with their antidotes; a posological table; a list of incompatibles; table of metric equivalents; brief account of external antipyretics, disinfectants, medical thermometry; urinary tests and much other useful information. By J. C. Wilson, A. M., M. D., physician to the German Hospital, Philadelphia, etc., etc. J. B. Lippincott & Co., publishers, Philadelphia, 1892. Price, $2.00

The number of new formularies that have appeared during the last few years, and the large sale which many of them have had, renders it evident that such works fill a decided want. Besides nearly 2600 formulæ there have been added various matters, as above alluded to, of immediate value in everyday practice.

Whatever Prof. Wilson does he does well, and we can say without hesitation that this latest production of his pen, although but a compilation, is of exceptional excellence, and by far the best work of the kind that has been brought to our notice.

LESSONS IN THE DIAGNOSIS AND TREATMENT OF EYE DISEASES, By Casey A. Wood, C. M., M. D., formerly Clinical Assistant, Royal London Ophthalmic Hospital, etc., with numerous wood-cuts. George S. Davis, Publisher, Detroit, Mich., 1891. Paper, 25 cents; cloth, 50 cents.

This number of the "Physician's Leisure Hours Series" has been prepared for the purpose of aiding the physician to detect and treat, by means always at hand, those diseases

of the eye which experience has shown are most frequently overlooked in the course of general practice; and is more or less in the nature of a supplementary work to several others already published in the same series: Conjunctival Diseases by Prof. Wittendorf, and the Detection of the Necessity for Wearing Glasses, by Prof. St. John Roosa. Several subjects have therefore been omitted which otherwise would have been touched. Dr. Wood has given us a work easily within the range of the general practitioner and is generally of an excellent character.

PERISCOPE.

THERAPEUTICS.

THE USE OF JABORANDI FOR URTICARIA.

I have noticed in some of my medical journals of recent date various remedies recommended for the cure of urticaria. I have not, for the past ten years, used any other remedy than jaborandi for this affection. I give one-half teaspoonful of the fluid extract every half hour until four doses are taken, or until free perspiration or salivation is induced. I usually direct it to be given in the evening, and instruct the patient to avoid exposure to cold while taking it and for thirty-six hours afterward. If necessary, repeat in same way in twenty-four hours. I have in no case had to repeat doses more than once to effect a cure I have also found jaborandi given in the same way a most excellent remedy in gonorrhœal rheumatism, when given in the beginning.—Dr. C. Heaton, in the *Cinn. Lancet-Clinic.*

IPECACUANHA IN ANTHRAX.

Dr. Davies-Colley (*La Semaine médicale*, No. 51, 1891) has employed ipecacuanha externally and internally in the treatment of anthrax with success. He excises the ulcer, dusts the wound with powder of ipecacuanha root, and administers this remedy internally in doses of twenty-five centigrammes (four grains), repeated every four hours. In five consecutive cases of anthrax he obtained good results by this method, while out of eight cases treated otherwise he had two deaths. Dr. Muskett, a South African physician, who first introduced this method of treatment, treated fifty cases in fifteen years without a single fatal termination. Ipecacuanha added to cultures of anthrax kills the bacteria but does not influence the spores.

FURTHER RESULTS FROM KOCH'S REMEDY IN MINUTE DOSES.

At the 64th Congress of German Naturalists and Physicians Prof. Aufrecht, of Magdeburg, reported 112 cases of tuberculosis with most gratifying results, under, however, much smaller doses than given in Germany last winter. He excluded far-advanced cases from the treatment, and has now 48 cases which are considered cured, 37 cases very much improved, and 22 cases improved, only five cases out of the whole number having derived no apparent benefit.

The treatment was long-continued, beginning with so small a dose as 0.0001 gramme and not exceeding 0.005. The discussion by others who had had experience was favorable to small doses, and a number of successful reports were added.—*Deutsche med. Wochenschrift*, Oct. 8.

PEROXIDE OF HYDROGEN IN TYPHOID FEVER.

Dr. F. H. Wiggin writes, in the *Medical Record*, that having had good results in using preoxide of hydrogen locally in diphtheria and tonsillitis, and in infected wounds, it occurred to him when a case of typhoid fever came under his care, during his summer practice, that this remedy might be beneficial, it being the most powerful non-poisonous germicide we possess. On August 24 he was called to see Abby M—, who gave a history of having been ill for a week with fever and diarrhœa. On examination he found a characteristic case of typhoid fever, with temperature 104½° F.; pulse, 130; sore spots, abdominal pain, tympanites, diarrhœa, and mild delirium. I prescribed one ounce of fifteen volume peroxide of hydrogen to eight ounces of water, to be taken every three hours, by the mouth. On the following day I found the patient more comfortable; temperature, 103° F.; pulse, 112; had had only two movements during the twenty-four hours; less delirium and less pain in head. On the 25th had had one movement; temperature, 102° F.; pulse, 104; less tenderness in abdomen, and pain in head diminishing. On the 27th, temperature, 100½° F.; pulse, 98; no movement, tympanites disappeared, and head, though still weak, clearer. On the 29th, temperature, 99½° F.; no movement. On the 30th, temperature normal; pulse, 84; formed movement. The case now went on uninterruptedly to recover, with nothing further of interest to report. On the 9th of September I discontinued my visits, the patient being discharged cured, though weak.

ILLUMINATION *VERSUS* EXPLORATORY PUNCTURE OF THE MAXILLARY AND FRONTAL SINUSES.

Ziem, of Dantzig, (*Berl. klin. Woch.*, June 15th, 1891) repeats his, previously expressed view that the diagnosis of suppuration of the maxillary sinus cannot be made with any certainty by the method of illumination through the mouth. In this view he finds himself in opposition to Bresgen and Vohsen; while, on the other hand, he is supported by Lichtwitz, of Bordeaux, and Srebrny, of Warsaw. Ziem adduces, in the first place, those cases of slight suppuration, where neither the amount of pus nor the thickening of the mucous membrane is sufficient to interfere with the transmission of light. In the second place, the size and thickness of the walls of the antrum are not always the same on the two sides in the same individual; and, moreover, there may be an unusual development in the size of the nasal fossa, with imperfectly developed maxillary sinuses. Both Lichtwitz and Srebrny have demonstrated by actual experiment that illumination could not be relied upon to prove the existence of pus in the antrum. As to the method of making an exploratory puncture, Ziem still maintains that it is best to make an opening through the alveolar ridge, and to send a stream of water thence through the nose. With regard to the frontal sinus, he holds that illumination by itself is not capable of furnishing a means of diagnosis, since here, also, there is much difference in the size of sinuses and the thickness of the walls. He considers, however, that a combination of this with other methods may be useful. At all events, in the next case which occurs in his practice with symptoms of suppuration in the frontal sinus, he would employ illumination; and he would follow this by use of the air douche. He would then use illumination again, and if the transparency of the sinus were now increased that would be an indication of disease of the sinus. On the other hand, if no result followed, the case would still be doubtful, and the question of puncturing the sinus from the outside would present itself. This exploratory puncture is rendered much safer by employing illumination, as Vohsen has shown, for the exact limits of the sinus are thereby defined. Having made a puncture with a small trephine, and injected a stream of water, the presence of pus is at once demonstrated, and the after-treatment can be carried out through this opening, which can be enlarged, if necessary, much more effectually than by endeavoring to blow air or powders through the frontal canal, or by cauterizing the mucous membrane of the nose in the vicinity of the orifice of the frontal sinus.—*Brit. Med. Journal.*

MOVABLE VISCERA.

Dr. Mann (*Deutsch. med. Wochenschr.*, August 27, 1881) records the case of a man, aged 43, who suffered from a severe attack of scurvy. A year later his liver, and ten months afterwards the left kidney were found to be movable. The following year the spleen, too, became floating. These facts were diagnosed clinically, and verified at the necropsy, death having resulted from pulmonary œdema and heart disease. After reviewing the causes to which undue mobility of the abdominal organs has been attributed by various writers, Dr. Mann concludes that the favoring conditions are three: (*a*) increased weight of the organ; (*b*) relaxation of the abdominal wall; (*c*) increase in the capacity of the abdomen.—*Brit. Med. Jour.*

ETHERIZATION IN LARYNGEAL CROUP.

Dr. Betz reports the case of a child, aged eighteen months, that presented the typical symptoms of laryngeal croup. The case appeared so hopeless that tracheotomy was, although proposed, rejected. Dr. Betz then proposed "etherization." Three drops of a mixture of either sulph. 3 parts, acetic ether 1 part, menthol 0.1 part, were ordered to be inhaled every quarter of an hour, just as chloroform is inhaled. It was hoped that the cold from the evaporating mixture would contract the surface blood-vessels of the larynx, and thus reduce the œdema present. The child was seen again in two hours, and the condition had somewhat improved. The etherization to be continued, 3 to 4 drops every half-hour. After six hours the condition was unmistakably better, so much so, in fact, that the etherization could be dispensed with. A piece of intestine filled with ice was placed around the child's neck. After this progress was so rapid that in twenty-four hours the child was out of danger.—*Memorabilien.*

MEDICINE.

PRIMARY TUMORS OF THE HEART.

Dr. Jurgens (*Berlin. klin. Wochenschr.*, October 13, 1891) publishes four cases of primary tumor of the heart—a rare affection, in regard to which knowledge is still limited. Case 1 is that of an infant aged 10 months in whose right auricle was found a growth about the size of a cherry. It took origin between the superior vena cava and the insertion of the anterior flap of the tricuspid valve, and on microscopical examination proved to be a simple fibroma. The endocardium of both ventricles here and there showed some fibrous thickening. No symptoms of heart disease were detected during life. Case 2 is that of a man, aged 50, who, although free from heart symptoms during life, was found *post mortem* to have a polypoid fibro-myxoma of his left auricle. The tumor, as large as a walnut, was attached to the middle of the anterior wall, and hung down an inch and a half into the mitral orifice. Microscopical examination showed the structure to be that of a highly vascular pigmented fibro-myxoma, the pedicle containing some striated muscular fibres. Case 3 is that of a man, aged 36, who, having died suddenly, was found at the necropsy to have suffered from a fibro-sarcoma of the right auricle and tricuspid valve, which caused considerable stenosis of the tricuspid orifice. No other pathological condition was discovered. Case 4 is that of a woman, aged 19, who also died suddenly, and whose heart was found *post mortem* to contain numerous small tumors buried in the wall of the right ventricle. These on microscopical examination proved to be gummata infiltrating almost the whole of the right side of the heart. The endocardium, the septum, and especially the region of the tricuspid valves, were also extensively infiltrated, the tricuspid orifice forming a rigid opening, admitting only two fingers. The walls of the arteries and of some of the veins, of the right ventricle showed well-marked sclerosis, while many arteries lying in the connective tissue new growths were completely occluded.—*British Medical Journal.*

"CEPHALIC TETANUS."

In the *Berliner Klinische Wochenschrift* for Sept. 7th, 1891, is an important paper by Dr. Brunner, of Zurich, on the Pathogenesis Cephalic Tetanus, a subject which is at present occupying some considerable amount of attention. Under the term "cephalic tetanus" this observer includes all those cases of spasms due to wounds in which the site of invasion of the tetanus bacilli lies in the region of the twelve cranial nerves. Owing to the localization of the site of infection and the initial distribution of the tetanic poison, a group of symptoms develop which distinctly separate this condition from tetanus as ordinarially met with. Moreover, the early manifestations of the disease are further modified by the exact position of the injury to the head and by the virulence of the poison, as has been proved by experiments on animals. For these investigations the products of the bacilli were separated from broth cultures by Kitasato's method. Subcutaneous injections of very small quantities of the poison, separated as above, produced precisely the same result as inoculations of pure cultures of the tetanus bacillus—namely, contraction of the facial muscles on the side on which the injection was made as an initial symptom. Dr. Brunner divides cases of cephalic tetanus into two classes: (1) Cases without paralytic symptoms; (2) cases with symptoms of paralysis. He does not think that the first class should be considered as cases of ordinary tetanus, for in the latter local spasms are extremely rarely met with, whilst they form the characteristic symptom of cephalic tetanus, and, further, these spasms are often confined to the regions of the cranial nerves, and do not spread and become general. In regard to the second class of cases, in which paralytic symptoms appear, he subdivides them into two groups—one in which the muscles supplied by the facial nerve only are implicated, and a second in which the other cranial nerves are affected. Dr. Brunner draws attention to the fact that a contraction of the muscles on the injured side first appears, and that this gradually gives way to a paralysis. Whether the paralysis is directly caused by the tetanic poison is doubtful. It would seem from experiments that the poison produces its effect locally, and then is carried by the blood current to the brain, and affects the nervous centres. When injected in small quantities locally, it produces spasms of the neighboring muscles, but in larger doses paralytic effects ensue in the same region. Dr. Brieger considers that this is a direct result of the tetanotoxin, but Dr. Brunner does not think that this has been proved. Paralysis and spasms occur when trigeminus has been previously divided, so that any action along the sensory tract is excluded. By injecting the poison into the cerebral hemispheres of rabbits, facial spasms are produced on both sides. If an animal be inoculated with the tetanic poison, and the motor

nerve endings be paralyzed with curare, the facial spasms disappear completely. This demonstrates that the tetanotoxin can act directly upon the motor nerve endings. Dr. Brunner thinks that it is possible that the fibrillæ of the striped muscles are likewise damaged by the poison. The muscles concerned in the act of swallowing are sometimes affected in cephalic tetanus, but not so often as when the wound is situated in some part of the body other than the head.—*Lancet.*

ULCERATION OF THE MOUTH AS A SYMPTOM OF LEAD POISONING.

Dr. Osmund Stedman, has recorded a few notes on this subject because it does not seem to be mentioned in the ordinary text-books as one of the symptoms of lead poisoning. His attention was first directed to ulceration of the mouth as a symptom in this disease by a friend who had two cases in one family, both children, who each had a crop of small ulcers in the mouth, and on having the drinking water analyzed it was found to contain a considerable trace of lead. In April of this year he was called to see a child about two and a half years of age, which was feverish, temperature 100.4°, and had six or eight small ulcers in his mouth which are best described as "phlyctenular." They were situated on the inner sides of the cheeks, some opposite to where there were teeth, and some further back, so that they did not appear to bear any relation to the teeth. The ulcers consisted of red excoriated spots varying in size from that of a pin's head to that of a hemp-seed, each surrounded by a small halo of whitish swollen mucous membrane. The child was constipated, and except the fever had no other symptom to note. The following day the child vomited several times, and had frequent attacks of griping pain in the abdomen (colic), during which he screamed and drew up his legs. These symptoms, of course, clearly pointed to lead as the cause of the trouble, and on analyzing the drinking water it was found to contain a considerable trace of lead, the source of the contamination being rain water stored in a lead-lined tank. There was no blue line present at any time, and on removing the cause of the trouble the patient rapidly got better, the treatment being directed to relieve the constipation by enemata, and the colic by small doses of opium. It would seem, therefore, that in cases of ulceration of the mouth in children one should look carefully for lead poisoning as a possible cause.

THE PRODUCTION OF IMMUNITY AGAINST AND THE CURE OF PNEUMONIA.

In 1890 was published the important discovery by Behring and Kitasato that blood serum taken from animals that had been rendered immune to tetanus and diphtheria was capable of curing other animals suffering from those diseases. Drs. G. and F. Klemperer (*Berliner klinische Wochenschrift*, August 24th and 31st, 1891) publish a research carried out in regard to pneumonia, with the object of discovering how immunity against the pneumococcus could be best produced, whether recovery from the disease rendered an animal immune, and whether it was possible to cure pneumonia by the blood serum of animals that had recovered from the disease. Their experiments, which were confined to rabbits, revealed that every nutrient medium in which the pneumococcus has been cultivated will, if inoculated, render an animal immune against pneumonic septicæmia, even after the cocci have been removed by filtration. The power of producing immunity is more speedily acquired, and is increased if the infected nutrient medium (before or after removal of the cocci) is exposed to a temperature of between 41° to 42° C. for two or three days, or of 60° for an hour or two. In every case, however, it was found necessary that some interval (varying from three to fourteen days) should elapse between the inoculation and the production of immunity. Hence it was too late to cure a diseased animal or even to prevent the onset of an attack if the injection was given simultaneously with the outbreak of the disease. On the other hand, serum taken from animals enjoying immunity was found able, especially when introduced directly into the circulation, to cure pneumonic septicæmia. The serum was injected twenty-four hours after infection, while the animals had a febrile temperature of between 105° and 106.5° F. Eight cubic centimetres were injected with the result that the temperature gradually sank during the next twenty-four hours. In twelve successive cases a successful result was obtained. This research therefore confirms, in regard to pneumonia in rabbits, what Behring and Kitasato did for tetanus and diphtheria. Drs. Klemperer next studied the question how the blood serum of an immune animal cures an attack of pneumonic septicæmia, and discovered that when the pneumococcus is introduced into the body of an animal it generates a poisonous substance which can be isolated, and to which the name of "pneumotoxin" has been given. This

pneumotoxin sets up a febrile condition which lasts several days, after which another substance is found to have been produced called "antipneumotoxin," which is able to neutralize the pneumotoxin. The serum taken from an immune animal contains this antipneumotoxin, and it is by means of this substance that it cures an attack of pneumonic septicæmia in other animals. The relation of pneumonia as seen in rabbits with that met with in man was next investigated, and the conclusion arrived at that the disease in both cases is produced by the pneumococcus, but that the human body is much less susceptible to the latter than the rabbit is. Thus it was found that serum taken from pneumonic patients after the crisis could cure pneumonia in rabbits; moreover, pneumotoxin and antipneumotoxin were found to be present in human serum as in that taken from rabbits. The crisis of pneumonia, according to Drs. Klemperer, takes place as soon as antipneumotoxin is produced in sufficient quantity to neutralize the pneumotoxin. Why immunity against further attacks lasts so short a time in man is still uncertain, but possibly less antipneumotoxin is formed in man than in rabbits in proportion to the pneumotoxin. Some attempts have already been made to cure patients suffering from pneumonia with the help of antipneumotoxin, but further observations are necessary before results can be published.—*Brit. Medical Journal.*

EXPERIMENTAL TYPHOID FEVER.

Gilbert and Girode (*Le Mercredi Medical*, May 6, 1891) call attention to the fact that animals inoculated with Eberth's bacilli have behaved differently in the hands of various experimenters. Gaffky observed no pathogenic action. Sivotinni and others have observed an acute septicæmia without multiplication of the bacilli, while Frænkel and others have observed a disease closely resembling human typhoid fever. The writers detail experiments on two guinea-pigs inoculated with Eberth's bacilli. Both animals had diarrhœa and loss of flesh, and died, one on the fourteenth the other on the thirty-second day. The *post-mortem* examination showed inflammation of Peyers' patches and ulceration of the mucous membrane of the cæcum, with enlargement of the lymphatic glands.

Bacilli were found in various situations. Tubes inoculated with splenic pulp and contents of the intestine showed growths of Eberth's bacilli—*Univ. Med. Mag.*

SPECIFIC GRAVITY OF THE BLOOD IN DISEASE.

Questioning the reliability and practicability of the methods of determining the specific gravity of the blood that have hitherto been employed, Schmaltz, of Dresden, has adopted the pyknometric method as the most exact. For this purpose he employs capillary tubes of special form, with a capacity of about one-tenth of a cubic centimeter. In one case the specific gravity of the blood obtained by venesection, taken with a large instrument, was 1040.98, and with the capilliary instrument 1041.48. As a result of 55 examinations of his own blood, and of examination of the blood of 20 persons of both sexes, Schmaltz has found that the density of the blood is very little, if at all, influenced by taking food or fluids (including a quart of physiological salt solution), by intense bodily exertion, and the development of hyperæmia of the skin at the point from which the blood is to be drawn. The specific gravity of his own blood was somewhat higher in the morning than later in the day, the greatest difference being included between 1056 and 1062.1, and being apparently independent of food and drink. The average specific gravity of the blood of eight men was 1059.1, and of 12 women 1056.2, showing a lower range for women than for men. The specific gravity remains fairly constant in healthy persons.

Schmaltz has tested the specific gravity of the blood of 95 patients, mostly women. 29 were chlorotic women with anæmia, more or less acute, without known cause. In nine of these the specific gravity of the blood fell below 1040, and in two below 1035. In the remaining 18 cases the specific gravity ranged from 1035 to 1049.

In 21 cases existing anæmia was known to have been a result of hæmorrhages and severe blood diseases. The figures obtained were higher than in the case of the chlorotics; two patients died; one had leukæmia and endo-carditis (sp. gr. 1034), and one septicæmia and endo-carditis (sp. gr. 1030). In one case of hæmatemesis, the specific gravity was 1031; in one of carcinema of the stomach and liver, 1039, and in one of incipient phthisis it was 1036. On the other hand, in a case of severe metrorrhagia, in which the patient, who a short time before the blood was examined almost died in collapse from hæmorrhage, and was extremely anæmic, the specific gravity of the blood was 1042. In the other cases—heart disease, Bright's disease, typhoid fever, etc.,—the specific gravity ranged from 1039 to 1049.

In a series of 33 cases, including one very anæmic patient, all of the organs of whom were healthy, cases of dilatation and of ulcer of the stomach, tertiary syphilis, progressive phthisis, valvular lesions of the heart, diabetes, marasmus, articular rheumatism, and two convalescent cases, one of pleurisy with effusion, and one of acute bronchitis, the specific gravity of the blood suffered no material diminution, and in two or three cases was even abnormally high—1063 (progressive phthisis and heart disease). Some of these cases lend support to the view of Oppenheimer, that when the proportion of hæmoglobin and the specific gravity are normal, though the patient be anæmic, there must be an abnormal distribution of the blood. It must be borne in mind that in some cases the specific gravity of the blood rises during inanition. In other cases, conditions of blood-stasis, such as occur in phthisis and in heart disease, raise the specific gravity in the areas of stasis.

In 26 cases Schmaltz compared the specific gravity of the blood with the percentage of hæmoglobin and with the corpuscular richness of the blood. He found that a lowering of the specific gravity goes hand-in-hand with a diminution of hæmoglobin, while the specific gravity is in a large degree independent of the number of red blood-corpuscles.

In four cases of chlorosis cured, the specific gravity rose until it became normal; in other cases it increased, but failed to reach the normal without the disappearance of the other symptoms.

As a result of his studies, Schmaltz formulates the following conclusions: Under normal conditions the specific gravity of the blood in man varies within narrow limits; as a rule it diminishes considerably in anæmic conditions, especially in chlorosis and diseases of the blood proper; the density of the blood is chiefly determined by the quantity of hæmoglobin present, while it is in a large measure independent of the number of red blood-cells; with improvement in the anæmic condition the specific gravity of the blood raises, and with complete recovery attains the normal. It seems, therefore, that the specific gravity of the blood is an accurate index of the condition of the disease; when the circulation is retarded in the extremities—for example, in diseases of the heart and lungs—the specific gravity of the blood is not rarely elevated, and may, in spite of persisting anæmia, be found normal.—*Deutche med. Wochenschrift*, Nov. 16, 1891.

[Schmaltz describes his "capillary pyknometer" and his method of using it in the *Deutches Archiv für klin. Medicine*, Bd. xlvii, 145. A capillary tube containing distilled water is weighed, the water is expelled and the tube again weighed—the difference in weight, of course, is the weight of the water. In the same way the weight of a capilliary tubeful of blood is obtained. The weight of the blood and the water being thus known, simple division gives the specific gravity.]—*News.*

SURGERY.

THE TREATMENT OF INTESTINAL OCCLUSIONS BY THE EMPLOYMENT OF THE CONSTANT OR GALVANIC CURRENT.

This has been the subject of a report to the Académie de Médecine, by M. Semmola, of Naples, given in *Le Progrès Médical* for October 3d, 1891, from which it appears that:

"1. There may be an intestinal occlusion caused solely by a defect of enervation.

"2. The curative effect of the constant current is, in such cases, very remarkable."

A case of obstinate constipation in a lady about fifty years of age, under the care of the writer, presented all the symptoms of intestinal occlusion. Large doses of active cathartics were given without success. Thirty grains of calomel at one dose brought no change. At the suggestion of the late Dr. Joseph C. Hutchison, who was called in consultation, a large dose of metallic mercury was given and massage employed in the hope of removing the obstruction without effect. On the sixteenth day the interrupted or Faradic current was used; the negative, through an olive-shaped electrode, was applied within the rectum; the positive, over the abdomen. On the eighteenth day the obstruction was removed, and a copious evacuation gave almost instant relief. The recovery was perfect.

For further details, see article on "Intestinal Obstruction" in the *International Medical Annual* for 1890, p. 333.

A NEW FORM OF SUTURE.

Opossum tail sutures are coming into vogue in America. The tail of this animal has many long and strong fibres, which, according to H. O. Marcey, of Boston, assumes the purposes of ligatures much better than catgut. From observations which he had made in cases in which he used the kangaroo tendon, he found that the tendon had not been absorbed or encapsuled, but had become part of the living tissue. He had often availed himself of the opportunity to prove this fact in the case of vessels which some time previously he had tied with the tendon.—*Med. Press.*

THE ETIOLOGY, PROPHYLAXIS AND THERAPEUTICS OF HÆMORRHAGES AFTER TONSILLOTOMY.

Although hæmorrhages following excision of the tonsils are of rare occurrence, they are of great interest to surgeons. The majority of patients are adults, in whom the hæmorrhage is due to the fact that the incised blood vessels fail to retract and contract properly in the indurated tonsillar tissues. The bleeding never results from injury of the carotid artery, as was formerly believed, but comes from the enlarged tonsillar branch of the carotid or the ascending pharyngeal, from the pterygo-palatine artery, or from the ascending palatine in cases where the latter vessel is abnormally situated. Usually, however, the hæmorrhage is not arterial, but of parenchymatous character. It can be easily understood that in persons suffering from hæmaphilia, tonsillotomy may give rise to an uncontrollable hæmorrhage.

As regards the prophylaxis, care should be taken in the performance of tonsillotomy not to draw the tonsils too far forward between the faucial pillars, because the surrounding folds of mucous membrane, and the vessels at their point of entrance in the tonsils, are exposed to injury. These accidents are most likely to happen if guillotine-shaped tonsillotomes or scissor-formed instruments are used. Especial care should be taken not to operate in the acute stage of inflammation, or in marked tonsillar hypertrophy, because these conditions favor the occurrence of secondary hæmorrhage. For the same reason the surgeon should content himself with excising only that portion of the tonsil which projects beyond the faucial pillars, the more so since the remaining part usually undergoes spontaneous shrinkage.

If a severe hæmorrhage occurs we should make use at first of styptics, which, in conjunction with compression, are usually sufficient to arrest the bleeding. The application of ice is an excellent hæmostatic. If these means fail, we resort to cauterization with nitrate of silver, or better still, the Pacquelin cautery. In the severe cases litigation of the common carotid artery has been successfully performed. As a final resort, tracheotomy with tamponing of the pharynx may be entertained. Experience has shown that severe hæmorrhages are frequently arrested by the occurrence of vomiting or syncope, and these conditions may be artificially produced for the same purpose.—Dr. O. Von. Holst, in *Oest.-ungar, Centralbl f. d. Medicin. Wissenchaften*, No. 11, 1891.

THE METHODS OF CARRYING OUT ASEPSIS IN VON BERGMANN'S CLINIC.

Schimmelbusch (*Langenbeck's Archiv.* Bd. 42) gives in detail the manner in which the dressings, instruments and brushes used in the clinic of Von Bergmann are rendered aseptic. The use of sublimate and carbolic solutions has largely given way to the employment of moist and dry heat. The efficiency of antiseptic solutions has been overestimated. It has been shown that threads infected with splenic fever contained living germs after fourteen days' immersion in a five per cent. carbolic solution, also that they were not killed by an immersion in a 1 to 1,000 sublimate solution for twenty minutes; they lived even after twenty-four hours' immersion. The antiseptic property of a solution may be destroyed by the active agent being rendered inert by undergoing a chemical change; thus, sulphur (as in fæces) will combine with corrosive sublimate and from an insoluble and inert sulphide of mercury. La Place has also shown how albuminous compounds will combine with it and thus destroy its activity. It is also impossible to subject each individual bacterium to the action of the germicide. Bacteria often occur in masses or in extraneous matter, and it is only those on the surface that are reached and affected by the antiseptic. Oils and fats likewise interfere with their action. These facts, together with the dangerous action of antiseptics on the human organism, contrast markedly with the efficacy and innocuousness of disinfection as accomplished by moist and dry heat. Mechanical cleansing is at the basis of and should precede all attempts at sterilization.

It's bad enough to have a cold,
And yet one might endure it,
If every fool would not proceed
To tell one how to cure it.—*Ex.*

TREPHINING THE VERTEBRAL COLUMN IN GUNSHOT WOUND OF THE SPINAL CANAL.

At a meeting of the Société de Chirurgie on November 18 (*Sem Méd.*, November 25), M. Nicaise presented, on behalf of M. Vincent, of Algiers, a communication on gunshot wounds of the spinal cord, and the treatment of them by trephining the spine. He classifies the lesions in such cases as follows: (1) Simple compression of the cord by effused blood, splinters of bone, or fragments of the projectile; (2) contusion or laceration of the cord caused by the bullet; (3) lodgment of the bullet in the vertebral column, with or without projection into the canal. M. Vincent is an advocate of operative interference in such cases, and he reports eight cases, with five cures and three deaths. He considers the cases in which the lesion belongs to the first of the above-mentioned categories as being the most favorable for operation, and he relates, in illustration, the case of a man, aged 31, who was struck by a bullet in the lumbar region. This was followed two days later by marked signs of compression of the cord. M. Vincent cut down and found a fractured lamina; he trephined, and introducing his finger into the canal found the cord free from compression. The bullet could not be found, and the wound was closed. Symptoms of meningo-myelitis followed the operation, but they quickly passed off, and in three weeks the patient was able to walk. Where the lesions come under one of the other categories mentioned, surgical interference is also indicated, but it is most important first to detemine as far as possible the exact site of the injury. He related the two following cases: 1. A lad, aged 18, was struck by a revolver bullet in the dorsal region; this was followed by symptoms of bruising of the cord. The spinal column was trephined on the third day, and the bullet was extracted. Death occurred eight days later, when it was found that the cord had been completely crushed. 2. A man, aged 37, was shot in the back on the level of the tenth dorsal vertebra; complete paraplegia followed. The bullet, together with a splinter of bone, was removed. After a period of improvement the patient died on the ninety-fourth day. M. Lucas-Championniere said that the difficulty in these cases lay in the localization of the lesions. He had trephined the spine, though not for gun-shot wound. He considered the operation as being still outside the exact rules of surgical art, besides being long and laborious, but he thought it capable of yielding good results, and the aggravation of the paralytic symptoms which sometimes ensued was merely transient. M. Bazy said he had three times operated on the spine, always using the chisel and mallet. In one of his cases the paralysis was so extensive that the patient breathed entirely with his diaphragm; nevertheless, chloroform was given without bad effect. M. Moty said he had made a *post-mortem* examination in the case of a patient from whom M. Delorme had removed a portion of a vertebral arch. The gap was filled up by fibrous tissue.—*Brit. Med. Jour.*

SIXTY-TWO CASES OF ENUCLEATION FOR GOITRE.

Lehotzky in the *Wiener klinische Wochenschrift*, October 8, 1891, gives the histories of a large number of operations by enucleation for enlargements of the thyroid gland from the clinic of Albert. He says the operation has definitely demonstrated its worth for a certain class of cases. Kocher, Wölfler and König are quoted as supporting this view. The operation is based on the fact that one of the forms of hypertrophy of the thyroid gland consists of an enlargement of a few of the follicles of the gland separated from the healthy parts by a more or less thick layer of fibrous tissue. It is not intended for other forms of enlargement or when the whole of the gland is affected. It is undertaken sometimes on account of the discomfort which the increased size occasions and sometimes for cosmetic reasons. The size of the growths varies from that of a hazelnut to that of a man's fist. The parenchymatous capsule of the nodes varied in thickness, one reaching five centimetres. Their boundary, was, in most cases, sharply defined. Sometimes, instead of being able to enucleate with blunt instruments it was necessary to cut and ligate carefully. The most dangerous thing in the operation is hæmorrhage. Capillary and venous hæmorrhages occur if the enucleation is made slowly, while, if made rapidly, very free arterial and venous hæmorrhage may occur. In such cases the wound is tamponed with iodoform gauze, and this is gradually removed as the vessels are ligated, all bleeding being carefully stopped. While in many cases the bleeding was enormous, still it was always controlled by ligature. Dividing the tissues between ligatures lessens the loss of blood, but prolongs the operation, and requires great patience. Parenchymatous hæmorrhage was only noticed in one case, also secondary hæmorrhage once. In one case the hæmor-

rhage after enucleation was so free as to require ligation of the carotid. One death from entrance of air into a torn vein is recorded. Enucleation is also suitable in cystic goitre, and where from the thinness of the cyst-wall or other causes it is impossible to remove all the cyst-wall, it may be sewed to the wound and treated with iodine injections. The same may be done with suppurating cysts. Chloroform narcosis was employed in most cases, although in small-sized growths cocaine anæsthesia was sometimes successfully used. One death occurred from chloroform. The incision should be made from above downward over the most projecting part of the growth. Catgut ligatures and silk sutures were employed and iodoform gauze packing to stop bleeding, the strip being allowed to hang out of the lower angle of the wound. Several cysts or nodes can be enucleated through the same wound. The recurrent nerve lies out of the plane of operation and can be avoided. In many cases the operation is readily done and heals promptly. Enough glandular tissue is left behind to obviate all fear of any cachexia following. When the growth is very large, and composed of several parts, so much only is taken away as will remove the bad symptoms of the case.—*Univ. Med. Mag.*

RELATION OF ALBUMINURIA TO SURGICAL OPERATIONS.

In a paper upon this important theme read before the Southern Surgical and Gynæcological Association (*Virginia Med. Monthly*, Dec., 1891), Dr. Long arrived at the following conclusions:

1. Ether or chloroform rarely injures healthy kidneys.

2. When renal disturbances occur from the use of an anæsthetic, the kidneys being healthy, they are due rather to prolonged narcosis, exposure of the patient, or perhaps to the combined influence of the operation and the anæsthetic.

3. A mild degree of albuminuria (or nephritis), especially if recent, is not a contra-indication to the use of chloroform.

4. Even in the presence of advanced and extensive renal changes, an anæsthetic may be employed, provided the patient or the family be advised of the additional risk.

5. Of the two anæsthetics usually employed, it is yet a mooted question as to which is the safer, so far as the kidneys are concerned, unless it be in obstetrical operations.

6. While it is by no means the rule, profound functional disturbance, and even organic lesions may be induced by an operation, apart from the influence of the anæsthetic.

7. Such renal changes are due to reflex sympathetic action, or to sepsis, or both.

8. Operations in certain regions—notably, the abdominal, genito-urinary, anal, or rectal, are especially liable to produce renal complications.

9. A healthy condition of the kidney *minimizes*, but does not obviate, the danger referred to.

10. Albuminuria is always an indication of renal lesions, and should be regarded with distrust, but is not a positive contra-indication to an operation.

11. When albuminuria is associated with other evidences of advanced renal changes, no operation should be undertaken without candidly stating to the patient or friends the dangers incident to the condition of the kidneys.

12. Paradoxical as it may seem, an operation will sometimes relieve an albuminuria due to acute affections.

13. No surgeon is justified in undertaking an operation without first knowing the state of the patient's kidneys.

THE LOCAL APPLICATION OF ETHER IN STRANGULATED HERNIA.

Finkelstein (*Berliner klinische Wochenschrift*, May, 1891) again draws attention to his method of treating this affection. In 1882, in No. 30 of this journal, he gave the details of sixty-three cases of hernia in which taxis failed. Local etherization was followed by reposition in fifty-four and failed in four; two of these were operated on, and two refused interference and died. In the present paper twenty-three additional successful cases are given, some of which occurred in the practice of other surgeons. In one case improvement occurred, and a movement of the bowels took place, but an operation was afterward performed, and some omentum replaced. Another case died suddenly, and the intestine was found of a dark, brownish-blue color, but strong and not at all easily broken. His method consists in placing the patient on his back, with the hips somewhat elevated and the knees flexed. The scrotum is to be supported by a small pillow. Every ten or fifteen minutes a drachm of sulphuric ether is poured on the tumor, and in from three-quarters to three hours usually, or six hours, as occurred in one case, the tumor will have diminished in size, and will either recede of itself or be readily returned.

The surrounding parts may be partly protected by smearing with oil, or a flat layer of cotton may be placed on the tumor and the ether poured on this.—*Univ. Med. Mag.*

OBSTETRICS.

CÆSAREAN SECTION FOR ECLAMPSIA OF PREGNANCY.

Dr. H. Von Swiecicki (*Der Fraaenorzt*, September, 1891) performed Cæsarean section on May 25th, 1891, in a small house in the city of Posen. The patient, in the last stage of pregnancy, was in a profound coma, interrupted occasionally by tonic and clonic convulsions. The legs were œdematous. There was no physical sign that labor had commenced. On that account Dr. Swiecicki determined to operate at once. The abdomen was thoroughly washed. A free incision was made in the median line, beginning above the umbilicus and ending about two inches and a half above the symphysis. When the peritoneum was opened the operator enlarged the incision till the uterus could be extruded without difficulty. The assistant pressed the parietes together behind the uterus, the intestines being protected by folds of mull. An elastic ligature was passed round the uterus close to the cervix. The uterus was laid open in the middle line, which was the site of the placenta. The child, placenta, and membranes were carefully removed. The child was asphyxiated and could not be revived. The uterine wound was closed with twenty-two aspticised silk ligatures. The deep sutures were passed designedly through the decidua. Dr. Swiecicki had successfully performed Cæsarean section for a case where labor was obstructed by a bony tumor of the pelvis, and found that it was best to include the decidua; nor did a very careful apposition of the serous surfaces of the wound appear essential to success. During the application of the sutures the assistant rubbed the surface of the uterus up and down. The elastic ligature was now removed; it had not been tied very tightly lest it should paralyze the vasomotor nerves and cause atony of the uterus. There was slight bleeding from two suture tracks, which soon ceased. The uterus contracted well and was returned into the abdomen. The abdominal wound was closed. The operation lasted scarcely thirty minutes. The coma continued after the operation and symptoms of œdema of the lungs quickly followed. The patient died. This is the tenth case where Cæsarean section has been undertaken for eclampsia, as advocated by Halbertsma. No fewer than six were performed in Holland; out of these five mothers recovered and five children were saved. The convulsions ceased in four of these cases; in the fifth three slight fits occurred after the operation. Case 7 was Herff's; mother and child were saved, though the former had jaundice and maniacal delirium before she recovered. Rosthorn and Müller (cases 8 and 9) were as unfortunate as Dr. von Swiecicki, who on that account cannot feel enthusiastic about the grave proceeding in question, since the danger is greater than Halbertsma might induce one to believe. Yet Dr. von Swiecicki considers that in eclampsia near term when the child is alive and cannot be delivered by the natural channel, either owing to entire absence of any natural effort to deliver it or to pelvic obstruction, Cæsarean section is justifiable. The obstetrician must deliberate on the grave responsibility, but the operation must be done as early as possible.—*Brit. Med. Jour.*

PROTECTION OF THE PERINEUM.

Wm. S. Gardner (*Journal of Gynecology*, September, 1891) writes that the value of a complete perineum is so great that the gynæcologist spends much time inventing new methods for its repair. What he has to offer on this subject is only the method of applying the principle that time is the great perineal protector, bearing in mind that almost any perineum will distend sufficiently to allow the safe passage of the head, if only the head can be prevented from advancing with too great rapidity just during the last portion of the second stage of labor. The two great forces driving the child toward the outer world are the contractions of the uterus and the contractions of the abdominal muscles. There comes a time in the labor when the perineum has become so weakened by distention that it can no longer bear the great pressure of these combined forces, a time when a few minutes' delay means the prevention of a rupture. Uterine action is beyond our control; the contraction of the abdominal muscles can be controlled either by complete anæsthesia or by the will of the patient. She is instructed in the interval between the pains that when she feels a pain coming on she is at once to open her mouth and breath through it as rapidly as possible. In addition the head is held back by pressing against the perineum in the direction of the pubes. The perineum should be as carefully guarded during the passage of the shoulders as during the delivery of the head.—*Univ. Med. Mag.*

TO DETERMINE PREGNANCY.

Dr. W. R. Lowman (*Med. Summary*) gives the following method: Examine under the tongue for two teats, about the size of No. 4 shot, each attached to a slender cord in which a nerve runs, connecting with the genital centre. They are pale in the non-pregnant, but in the enciente they are purplish red.

MATERNAL IMPRESSIONS.

Dr. Archibald Mackay writes in the *Lancet:*

I have read with much interest the remarks on Dr. Lee's cases of maternal impressions in the *Lancet* of the 21st ult. As I have met in my practice with several cases in which marks on the child have been ascribed by the mother to fright or other causes experienced during pregnancy, the following notes may be of interest:

The first case which came under my observation was that of a young girl with an oblong patch of soft dark hair on the left cheek, extending from the ear downwards to the neck. The mother stated that while pregnant she was working in the field at haymaking, when her husband threw a young hare, which he had found in the hay, at her, striking her on the cheek and neck in the exact place where the patch of hair was found on the child at birth. The color and character of the hair on the patch closely resembled the fur of a very young hare.

The second case was that of a lady who, on entering her kitchen when pregnant, found the servant with a paraffin lamp on fire. She happened to place her hand on the back of her neck at the moment, and turned away immediately, lest the shock might produce a miscarriage. The child (a male) was born at full time, and when examined had a red discoloration of the skin on the back of the neck, extending upwards toward the occiput, in pointed tips, not unlike a flame in shape and appearance.

The third was also a male child. The mother, immediately after the child was dressed, inquired if he had any marks. I asked her to tell me what kind of a mark she expected, and where I was to look for it. She replied, "Look on the top of the head for a mouse mark." When the head was examined a brown oval patch was found on the spot indicated. The mother in this case did not see the child, and the mark was not observed until she had made inquiry about it. It seems that when pregnant, on opening a press, a mouse jumped out at her feet, causing a sudden shock, and she involuntarily placed her hand on the top of her head in the exact spot where the patch was found on the child.

The fourth case, a male child, when born had a raised bluish mark on the mucous membrane of the lower lip. The mother said she could only account for it by her having great sympathy with a friend who was in bad health at the time she was pregnant, and who had a venous nævus on the lower lip in the same place as on the child's lip.

The fifth case was that of a female child, with a circular pinkish mark on the left arm above the elbow. The mother ascribed the cause to ungratified desire. When walking past a gentleman's grounds she saw a flowering rhododendron, which she stood to admire, and happened to catch her left arm above the elbow with the right hand, being about five months pregnant at the time, and to this cause she attributed the mark on the child.

In these cases the first three were attributed to sudden fright, the part touched at the moment the shock was received being the part affected in the child; the fourth to sympathy, and the fifth to a wish ungratified. The exact period of gestation at which the impressions were received I have not been able to find out, but, as far as could be ascertained, it was between the fourth and sixth months. The mothers in all these cases were strong and healthy, and the infants well-developed and born at full time.

HYDRASTIS CANADENSIS IN OBSTETRICS.

Bossi, of Genoa (*Nouvelles Archives d'Obstét. et de Gynéc.*, Aug., 1891), has carefully analyzed sixty-four cases where he has administered this drug. He finds that the fluid extract, administered at any stage of pregnancy, in doses of 100 to 200 minims daily for several days, has no evil effect either on the mother or child. It is equally innocuous during delivery. It has a constant, curative, and prophylactic hæmostatic action on the uterus during pregnancy, labor, and the puerperium, without any ecbolic effects or modification of the uterine contractions. It is infinitely preferable to ergot, and much less dangerous when distributed to midwives for use in hospitals and in private. Bossi gives 100 to 150 minims daily, in three doses, during hæmorrhage in pregnancy and labor. He also administers it as an immediately curative agent in flooding during labor, in three or four doses amounting to 200 minims; and in placenta prævia he gives the drug at the beginning of labor, and during dilatation of the os. Bossi also uses the liquid extract as a prophylactic agent against *post-partum* hæmorrhage, and against flooding in ab-

dramnios, uterine inertia, large fœtus and placenta, anæmia in the patient, and predisposition to flooding from any known or unknown cause, as proved by the experience of previous labors.—*Brit. Med. Jour.*

GYNÆCOLOGY.

ELECTRICITY IN METRORRHAGIA.

Boer, (*Norsk Magazine for Laegevidenskaden, No. 5, 1891*), in two desperate cases of metrorrhagia, where all other means failed, succeeded by the induction current in stopping the hæmorrhage in the course of ten minutes. As it returned after two days, it was again employed, four times in all, after which the hæmorrhage ceased entirely.

RACEMOSE SARCOMA OF THE CERVIX.

Pfannenstiel (*Centralbl. f. Gynäk.*, October 17th, 1891) describes a case of the very malignant racemose tumor of the uterus, first described by Pernice as myosarcoma strio-cellulare uteri, and sometimes termed rhabdo-myosarcoma uteri. In Pfannenstiel's case the patient was 53, and been pregnant four times. Five years after the menopause she was seized with sacral pains and discharge. A grape-like mass reached the vulva, occupying the vagina and springing from the anterior part of the cervical canal. This mass was cut away. In one year and three-quarters the patient returned, and the racemose mass, which had grown again in spite of cauterization of the cervical canal, was removed. The wound left on its removal was scraped with the sharp spoon and touched with Paquelin's cautery. Six months later the tumor had recurred. The uterus was extirpated and the patient recovered. Half a year later another recurrence took place in the left half of the vaginal scar. The recurrent growth was cut out and the wound cauterized. When the report was read, recurrence had once more occurred. Pfannenstiel has collected eleven cases of racemose sarcoma of the cervix. It is most frequent in multiparæ, and prevails either at puberty or the menopause. It is essentially malignant, the average duration of life being under two years. After excision, it rapidly recurs in the cicatrix, but is relatively slow in infecting the neighboring parts. The disease has always hitherto recurred after operation. Pfannenstiel believes, however, that this evil record is due to the fact that it has never hitherto been diagnosed until it has formed a large mass. The results of operation will doubtless be less serious when interference can be made earlier. In any case where racemose sarcoma is diagnosed the uterus should be extirpated or, if the disease has advanced too far, the mass must be cut away and the wound freely scraped. The pathological peculiarities of the tumor are perhaps better known than its clinical course. It often contains embryonic striped muscle cells. Owing to its racemose character it is easily distinguished, but it might be confounded with hydatid chorion or with cauliflower ephithelioma of the cervix.—*Brit. Med. Jour.*

TREATMENT OF SEVERE PROLAPSUS UTERI.

Dr. Richelot (*Union Med.*, October 3d, 1891), advocates extreme measures in cases of prolapsus which recur after colpo-perineorrhaphy or Alexander's operation. Vaginal hysterectomy, Dr. Richelot maintains, is a very easy and mild operation. He has twice had recourse to it with success. He adds, however, that though this extreme proceeding is very useful in relieving the patient from the inconvenience of a heavy uterus, it does not prevent the vaginal walls from prolapsing again. Hence hysterectomy must be considered rather as a preliminary operation. Ultimately a colporrhaphy will be needed, or an operation for obliterating the vagina after Le Fort's method. "When that has been done," says Dr. Richelot, "your patient will be thoroughly cured, without possibility of recurrence."—*British Medical Journal.*

ON VAGINAL HYSTERECTOMY FOR CARCINOMA.

So much has this operation been decried on the ground of failure to radically cure, that the latest batch of statistics from Leopold's Klinik, in Dresden, will be received with peculiar interest. A carefully conducted inquiry into the present condition of all the patients thus operated upon in that institution from 1883 up to May, 1889, has been made in the present year by Leisse (*Archiv für Gynäkologie*, No. 40, 1891, Heft 2). The majority of these patients surviving, were examined with a view to determine local conditions; a few only were unavailable, and replied by letter.

From 1883 to May, 1889, in all, eighty total extirpations per vaginam were conducted. In all these cases at least two years have elapsed since operation; and out of the eighty, forty-five are still living, and in good health. The majority of the deaths have occurred during the later part of the time embraced; this being accounted for by the statement that a greater skill in operating

has allowed the inclusion of cases previously outside the pale of probable successful operation.

Of the thirty-five deaths, eight were due to other diseases *e. g.*, phthisis, etc.; so that the mortality, after a probation of two years, is lowered to 37.5 per cent, due to recurrence. Sixty-two and a-half per cent, therefore, of the cases were successfully operated upon; and this after a two years' test.

The following table of results is given in the *Archiv für Gynäkologie.* S. 265.

2 cases were operated on	7 yrs. ago;	2	still survive	—	100	p. c.
9 cases had been	"	6	"	; 6	"	—	66	"
30 " "	"	5	"	; 18	"	—	60	"
42 " "	"	4	"	; 25	"	—	59	"
58 " "	"	3	"	; 34	"	—	58	"
80 " "	"	2	"	; 45	"	—	56	"

HEROIC GYNÆCOLOGY.

Not long ago it was suggested in many quarters that abdominal section for diseases of the female organs was performed too often. It requires experience and judgment to recognise how far tubes and ovaries are sufficiently diseased to require removal when they have already been exposed by an exploratory incision. Much valuable knowledge has already been gained on this subject, and Polk, of New York, Martin, of Berlin, McCann and Skutsch have successfully performed a conservative and plastic operation on the Fallopian tube. Thus the primitive age of abdominal operations is passing away. Unfortunately, it would appear from a perusal of the European medical press that an era of excess is passing over vaginal surgery. The entire specialist French press was taken up last spring with discussions on a proceeding to which we have hitherto turned little attention. We refer to the total extirpation of the uterus and appendages for chronic inflammatory diseases of the peritonitic type. One operator at least both practiced it extensively and advocated it in the face of violent opposition from the most respected authorities. Another and better-known specialist, in a lecture delivered to pupils, advocates very extreme measures for prolapsus uteri. This affection is, no doubt, a sad inconvenience to stout elderly ladies and workwomen, but it does not endanger life. More than one German gynæcologist, however, has removed the uterus from the vaginal side as a remedy for prolapses. This is surely an extreme measure, but the French teacher referred to above does not consider the removal of a big prolapsed uterus as "extreme." Indeed, he speaks of that operation as *très facile et très bénigne*—minor surgery, as it were. For delivering a woman from the trouble of big uterus by cutting into peritoneum and handling omentum and intestine through a narrow canal hard to keep free from sepsis is, it would appear, a mere preliminary. The patient's comfort is not yet assured, for prolapse of the vagina is very likely to follow. The vagina must, therefore, be sewn up, or narrowed by a plastic operation—then the cure will be complete. The above teaching is based upon some of the principles which the true scientific and practical man of physic studiously deprecates; still more studiously does he avoid teaching them to his pupils.—*British Medical Journal.*

PÆDIATRICS.

PARAFFINE IN DIPHTHERIA.

Mr. A. M. Sydney-Turner, Surgeon to the Gloucester County Infirmary, informs the *Lancet*, in reply to inquiries, that he has treated thirty cases of diphtheria (children and adults) with paraffine, and has had the satisfaction of seeing every one recover. His plan is to ask for the ordinary paraffine used in lamps, and having scraped off the diphtheritic patch, to apply the paraffine every hour to the throat (internally) with a large camel's hair brush. As a rule, the throat gets well in from twenty-four to forty-eight hours, and with improvement in the throat the paraffine is applied less frequently, but he continues to use it for two or three days after the complete disappearance of the patches. He speaks definitely as to the therapeutic effects, but is unable to state what the chemical action of paraffine on the diphtheritic membrane is; probably the hydrocarbons in the liquid exert some powerful influence on the membrane.—*Scientific American.*

COCAINE IN PERTUSSIS.

Dr. A. Bianchi administers the hydrochlorate internally in doses of thirty to eighty centigrammes per day, giving a dose every two or three hours; and in bad cases even as much as one gramme. No evil effects were observed; on the contrary, from the very first there was an improvement. The attacks became less frequent, from thirty or forty in the twenty-four hours to ten or twelve, or even less. The vomiting ceased, and consequently nutrition improved; along with the appetite the gastro-enteric functions were performed with regularity. The cure in some cases was complete in a week, in others from fifteen to twenty days. The cough did not cease, but the spasmodic attacks became less

and less frequent and severe. Sudden cessation of the medicine was followed by a return of the frequency of the attacks, but gradual withdrawal was satisfactory. Ill effects were seen only twice, and passed away suddenly on suspending the administration of the medicine and giving ten drops of laudanum. In the cough of bronchitis or phthisis cocaine appears to be useless or uncertain.—*Lo Sperimentale.*

HYGIENE.

PREDISPOSITION TO TUBERCULOUS INFECTION.

Professor Birch Hirshfield, of Leipzig, comments on the question of predisposition to tuberculous infection, pointing out that the prevailing theory of direct infection by inoculation of the bacillus is rapidly coming to be regarded as the only important factor in the spread of the disease. Predisposition may be classed as "general" and "local," meaning by the first term a greater or less resistance to the development of tubercle; and by the second, the various factors that incline an individual organ or part to become tuberculous. General predisposition may be inherited or acquired, as in the case of diabetes. Local predisposition may depend upon the condition of the local tissues, the opportunities which they afford for the entrance of the tubuculous virus, and the amount of resistance which they set up against its development. Inherited predisposition is strengthened by the fact that, up to the present time, the evidence of direct conveyance of the disease from mother to fœtus in utero has not been well established in the human species, although undoubted instances have been reported as occurring amoung certain animals. Dr. Birch-Hirschfield relates a case in which a fœtus was removed from the uterus of a women aged twenty-three, within a few moments of her death from general tuberculosis, without any damage being done to the placenta. Portions of the liver, spleen and kidney of the fœtus produced tuberculous disease when inoculated into rabbits and guinea-pigs, but only in the capillaries of the liver could any tubercle bacilli be discovered. In the placenta, however, the villous spaces were crowded with bacilli. The very limited evidence of tuberculous material in the fœtus might serve as an explanation of the fact that children of tuberculous parents are often born without any manifestations of tuberculous disease, and yet appear to develop tubercle during the first few years of life. A limited infection by the maternal bacilli, perhaps during the process of birth, might remain latent in one or more organs until other circumstances contribute to their development. It is thus possible that confusion may exist between "latent tubercle" and "tuberculous predisposition." That latent tubercle may remain quiescent, especially in bronchial glands, until awakened by an attack of acute disease, such as measles or whooping cough, is well known. The frequent occurrence of such latent tuberculous foci, without any other evidence of tuberculous disease, goes far to prove that resistance to tubercle is as powerful a factor as predisposition. The congestive influences of valvular disease of the heart and of emphysema upon the connective tissues of the lungs are examples of some of the mechanical causes which constitute resistance.—*Weiner Medizinische Blätter.*

ALCOHOL AND DEATH-RATES.

In a letter published in the *Times*, Dr. C. R. Drysdale has brought together some statistics as to the effects of alcohol on health which are worthy of preservation. He states that in 1890 the actual claims in the temperance section of the United Kingdom Temperance and General Provident Institution of London were 71.6 per cent of the expected claims; whereas, in the general section, the actual claims were 100.2 per cent. of the expected. The Sceptre Life Association, between 1884 and 1888, showed that the deaths of the insured in the general section were 79 per cent. of the expected deaths, as compared with 54.4 per cent. in the temperance section. The Rechabites, a total abstinence friendly society, shows at all ages from 20 to 73 a lower annual death-rate than that of the Ancient Order of Foresters. At the age of 20 the death-rate per 1,000 among the Foresters being 7.29, it is 5.59 among the Rechabites; at 30, 8.07 in the former to 5.12; at 40, 12.0 to 6.46; at 50, 18.65 to 11.97; at 60, 33.66 to 25.15 among the Foresters and Rechabites respectively. The Sons of Temperance also had a very low mortality, not exceeding 7.5 per 1.000 per annum of those insured. After the age of 44 the sickness-rate of the Sons of Temperance seems not to exceed one week yearly up to the age of 54, whereas in the non-abstaining Foresters and Odd Fellows it rises gradually from one week yearly up to the age of 44 to six weeks at 54. At all ages the annual death-rate of the Sons of Temperance is much below that of either the Foresters or Odd Fellows. At all ages from 25 to 65 the annual death-rate of the Rechabites was considerably below that of the Foresters, the healthy males of England

and Wales, and the "healthy males" of twenty life insurance companies. Accidents appear to be commoner and more dangerous among non-abstainers than among abstainers. Thus the Lancashire and Yorkshire Accident Insurance Company gives an abatement of 10 per cent. to all total abstainers on their premiums when they have been insured for a year, as do the Accident Insurance Company and the British Empire Mutual Insurance Company.—*Brit. Med. Jour.*

MEDICAL CHEMISTRY.

BORAX-BORIC ACID.

The somewhat feeble solubility of boric acid in water (1 in 25) has induced Mr. Jaenicke, of Goerlitz, to search for a substance which would increase its solubility without interfering with its uses. He found borax to be the most suitable. Equal parts of borax and boric acid can be made to crystallize together in form of hard crystals, which are soluble in about 6.5 parts of water at the ordinary indoor temperature, in about 3.3 parts at 100° F., and in about 1.3 parts at boiling. If a hot saturated solution is rapidly cooled, it will separate the excess of the salt, not immediately, but after some time only; hence it is possible to use supersaturated solutions in certain cases.—*Therap. Monatsch.*, No. 9, 477.

ACETONURIA IN THE INSANE.

Drs. Boeck and Slosse, who have been engaged in examining the urine of insane patients for acetone, remark that great care must be employed in the collection of the urine; the flasks must be absolutely full and efficiently stoppered, or, better still, the distillation should be commenced immediately. Lieben's iodoform reaction was found to be the most suitable one for indicating the existence of minute quantities of acetone. Gunning's test may also be used, and if these two give negative results, all others are superfluous. The perchloride of iron test is useless for acetone, but is characteristic of diacetic acid. Acetone may exist in the urine under physiological conditions; its importance depends upon the quantity of nitrogen in the food. A small quantity, therefore, in the urine of insane patients is of no importance whatever. The amount did not appear to have any relation to the mental state of the patient—that is to say, to the existence of such conditions as depression, excitement, fear, or delusions. The quantity of acetone increases considerably when the body is in a state of inanition. It is a good plan, according to Drs. Boeck and Slosse, to commence artificial feeding when a patient who will not eat passes urine containing a large proportion of acetone.—*Lancet.*

NEWS AND MISCELLANY.

THE PAN-AMERICAN MEDICAL CONGRESS AT THE UNITED STATES OF COLOMBIA.

Pursuant to nominations by Dr. Pedro M. Ibañez, of Bogota, member of the International Executive Committee for the United States of Colombia the following organization of the Pan-American Medical Congress has been effected in that country:

Vice-President, Dr. Pio Rengifo, New York; *Secretaries of Sections—General Medicine*, Dr. Ignacio Gutierrez Ponce, Paris; *General Surgery*, Dr. Rafael Rocha Castilla, Bogotá; *Military, Medicine, and Surgery*, Dr. Abraham Aparicio, Bogotá; *Obstetrics*, Dr. Joaquin Maldonado, Bogotá; *Gynecology and Abdominal Surgery*, Dr. Jose M. Buendia, Bogotá; *Therapeutics*, Dr. Manuel Plata Azuero, Guadnas; *Anatomy*, Dr. Joan D. Herrara, Bogotá; *Physiology*, Dr. Amonio Bargas Vega, Bogotá; *Pathology*, Dr. Nicolas Osorio, Bogotá; *Diseases of Children*, Dr. Ant. Gomez Calvo, Bogotá; *Ophthalmology*, Dr. Proto Gomez, Bogotá; *Laryngology and Rhinology*, Dr. Luis Fonnegra, Bogotá; *Otology*, Dr. Carlos Guerra, Bogotá: *Dermatology*, Dr. Daniel E. Coronado, Bogotá; *Orthopædics*, Dr. Juan E. Manrigue, Bogotá; *Naval Hygiene and Quarantine*, Gabriel I. Castaneda, Bogotá; *General Hygiene and Demography*, ——; *Mental and Nervous Diseases*, Dr. Pablo Garcia Medina, Bogotá; *Oral and Dental Surgery*, Dr. Guillermo Vargas Paredes, Bogotá; *Medical Pedagogics*, Dr. Jorge Vargas, Bogota; *Medical Jurisprudence*, Dr. Leoncio Barrets, Bogotá; *Auxiliary Committee* (each member being the official representative of the Congress in his respective city), Dr. Nicolas Osorio, Dr. Andrés Posada Arango, Dr. Jorge E. Delgado, Dr. Eugenio de la Hoz, Dr. Domingo Cagiao, Dr. José Manuel Rodrígues, Dr. Paulo Emilio Villar, Dr. Felix M. Hernández, Dr. Rafael Calvo, Dr. N. Ribón, Dr. Milcedes Castro, Dr. Cayetano Lombana, Dr. José M. Martinez, Dr. Isaias Saavedra, Dr. Severo Forres, Dr. N. Villa, Dr. Evaristo Garcia, Dr. Miguel Caicedo, Dr. Emilio Villamizar.

The following medical societies have been elected as auxiliaries of the Congress, viz. Academia Nacional de Medicina, Academia

de Medicina de Medellin, Sociedad de Medicina del Cauca.

The following medical journals have been designated as official organs of the Congress, viz., *Revistá Médica*, Bogotá; *Revistá de Higiene*, Bogotá; *El Agricultor*, Bogotá; *Boletin de Medicina del Cauca*, Cali; *Anales de la Academia de Medicina de Medellin*, Medellin.

The expressed wish of the profession of the United States of Colombia is for a date of meeting during the Columbian Exposition.

CHARLES A. L. REED,
Cincinnati, Jan. 17th. *Secretary General.*

SALICYLAMIDE.

The pharmacology of salicylamide is the subject of a preliminary communication from Dr. W. R. Nesbitt, of Toronto. As the result of a number of experiments, the author expresses the opinion that for therapeutic purposes salicylamide presents advantages over salicylic acid and its salts, in being free from taste, more soluble than salicylic acid, acting more promptly and in smaller doses, having greater analgesic properties, and being pharmacologically safer. Salicylamide $C_6H_4\langle^{OH}_{CO}\rangle NH_2$ was first prepared by Limpricht, by treating gaultheria oil with concentrated solution of ammonia—a method preferred by the author, as avoiding the possibility of introducing foreign toxic compounds, as might be the case when an artificially produced methyl salicylate is used.

When ammonia and gaultheria oil have stood together in the cold for some days, the liquid assumes a deep reddish-brown color, and separation takes place in brown crystals that can be easily purified by recrystallization. From a saturated solution rapidly cooled it separates in an acicular form, otherwise it occurs in thin, long plates or bunches of plates. By treatment with charcoal, Dr. Nesbitt found it easy to obtain perfectly colorless, thin transparent plates, melting at 142° C., soluble in alcohol, ether, chloroform, and about 250 parts of water. Salicylamide is quite tasteless, but produces a gritty sensation between the teeth. It is excreted in the urine partly unaltered, but chiefly as salicyluric acid. It possesses decided germicidal properties, and it was found that both diastatic and peptic changes are retarded by it, but not to the same extent as by salicylic acid.—*Therap. Gazette.*

PRESENCE OF FATTY ACIDS IN SO-CALLED DEFATTED COTTON.

The *Pharmaceutische Centralhalle* states that M. Leick, having treated a number of specimens of cotton wadding, sold as entirely free from grease, to exhaustion with ether and subsequent distillation, the author obtained in every case a solid etheric extract varying from ½ of 1 per cent. to 1.15 per cent. of the weight of the cotton so treated. This extract reddened litmus paper, and proved to be composed almost entirely of fatty acids, with a minute proportion of resinous matters. The author, continuing his investigations, found that these acids were purposely added by the manufacturers in order to give the wadding a whiter appearance and that crepitant feeling which is peculiar to it. The author concludes that inasmuch that as presence of the acids may be an objection under certain circumstances, he would recommend the testing of all "defatted" cotton wadding in the following manner: Weigh out 20 gm. of the wadding, exhaust by ether, and evaporate the latter. After desiccation, the residue should not be more than 3 cg.

EXTIRPATION OF CARBUNCLE.

Dr. Riedel has practiced immediate extirpation of carbuncles since 1883, and finds that this procedure is far preferable to the customary treatment by deep incisions. The operation is performed as follows: A circular incision is made through the skin around the infiltrated area, and from this a number of vertical incisions are made to radiate toward the healthy peripheral parts. At least four cutaneous flaps are thus formed, which are separated from the infiltrated tissues, and then the latter are dissected off from the fascia of the subjacent muscles. The hæmorrhage, which is frequently profuse, is controlled by means of compression and tampons. On the evening of the day of operation the temperature has usually become normal. On the following day the swollen cutaneous flaps are approximated; the opening in the centre provides for drainage. The advantages of this treatment are: 1. A dangerous inflammatory focus is replaced within half an hour by a perfectly harmless loss of substance in the skin and subcutaneous tissue. 2. An extension of the local process or general infection are both excluded. 3. The loss of healthy integument at the periphery of the carbuncle is

reduced to a minimum. 4. For this reason healing takes place rapidly and a good cicatrix results.—*Deut. Medicin. Wochenschr.*, No. 27, 1891.

ANTISEPSIS: PUERPERAL MORTALITY IN PARIS HOSPITALS.

Our own correspondent in Paris last week gave interesting particulars confirmatory of the immense benefits conferred on parturient women by the application of antisepsis to obstetrics. We commend the account to the careful attention of our readers. He says, out of 1340 women delivered in Prof. Tarnier's wards during the past academical year only fourteen died, thus giving the very satisfactory mortality of 1 in 95, or 1.04 per cent. Eight years ago the mortality calculated on the same number of cases reached 2.50 per cent.; while, thirty years ago, one parturient out of eleven, or 9 per cent., died. These figures prove conclusively that modern methods of conducting labor are responsible for the saving, in his wards alone, of 100 valuable lives per annum. This is a very gratifying report of progress and advance, and perhaps our correspondent is right in thinking that the virtue of antisepsis can go no further. Puerperal fever is now unknown in the wards of M. Tarnier, whose memory goes back to a time when he witnessed five deaths in one day from puerperal peritonitis; but there is still room, perhaps, for better results, if we may judge from the experience of some of our London lying-in hospitals. In one of these, during the years 1888 and 1889, there was but one death in 1272 successive deliveries.—*Lancet.*

TREATMENT OF UTERINE FIBROIDS BY COMBINED GALVANIZATION AND FARADIZATION.

Dr. Baraduc has devised a new electrical treatment of uterine fibroids, which consists in the joint use of the galvanic and faradic currents, applying both electrodes to the abdominal walls or on the cervix, and the other to the abdomen. The apparatus consists of a galvanic battery capable of furnishing a current of 250 milliamperes, a coarse faradic coil, and two very moist tampons to be pressed very firmly against the wet skin, so as to localize the current which should invade the uterus at one of its two axes. After one, or perhaps more than one *séance*, a positive diminution may be observed in the mass of the tumor, which is manifested by a depression of the form and size of the electrode, at the side of its application. This percutaneous procedure is based not only upon the contractile, circulatory, and resorbent power of the faradic vibrations, but also, and especially upon its disintegrating and oxidizing action. It is especially applicable to inoperable abdominal fibroids that are impenetrable to the uterine sound. The operation consists of three steps: (1) The application and maintenance by strong pressure of the two rheaphores upon the abdominal walls, or of the cutaneous rheaphore if the other is used *per vaginam*. (2) The established current completely utilized, muscular contraction ceases because of the penetration of the current, which the patient no longer feels, its action being wholly spent upon the tumor. (3) Gradual increase of the galvanic current while maintaining the rapidity of the faradic vibrations. Dr. Baraduc reports one case of immense abdominal fibroid which had been refused operation by Pean, but which was relieved of all urgent symptoms by the combined electrical treatment just described, while at the same time it was reduced in volume one-half.—*Journal de Médicine de Paris*, October, 1891.

ICHTHYOL IN GYNCÆOLOGIGAL PRACTICE.

Dr. J. Eschen (*Gynäkologiske og Obstetriske Meddeler*, Bd. 8, S. 281) has used ichthyol in gynæcological cases, according to Freund's, of Strassburg, instructions, with, however, not such astonishing results as many clinicians report. He obtained eczema and universal erythema as side-actions. In some cases, as of metritis, parametritis, oöphoritis and peri-oöphoritis, he obtained good results, but, unfortunately, sometimes the remedy did not respond. The disagreeable eructations following its administration by the stomach were neutralized by the addition of cumarin, four centigrammes (three-fourths of a grain) to each pill.

LIST OF MEDICAL JOURNALS.

Dr. Ferdinand King proposes publishing in an early edition of *The Doctor's Weekly* "a complete list of medical, dental, pharmaceutical, veterinary, and scientific journals."